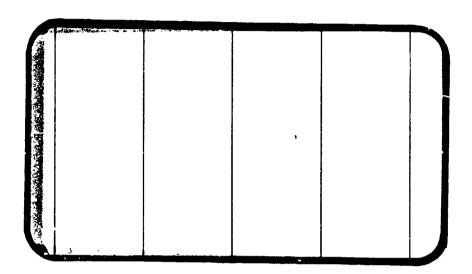


# NATIONAL AERONAUTICS AND SPACE ADMINISTRATION



(NASA-CR-128799) RESULTS OF TESTS OF A G.G10- AND 0.015-SCALE MODELS OF SPACE SHUTTLE ORBITER CONFIGURATIONS 3 AND 3A IN THE AMES RESEARCH CENTER (Chrysler Corp.) 762 p HC \$41.25 CSCL 22B

N74-35275

Unclas G3/31 51000

SPACE SHUTTLE

AEROTHERMODYNAMIC DATA REPORT

JOHNSON SPACE CENTER

HOUSTON, TEXAS

DATA DANagement services



DMS-DR-2071 NASA CR-128,799

RESULTS OF TESTS OF 0.010- AND 0.015-SCALE

下放了一条的 人名英格兰斯 医多种 人名英格兰斯 医克里斯氏 医克里斯氏病 医多种病 医多种性 医二种 人名英格兰斯特拉克斯

Control of the Contro

**E**.

MODELS OF SPACE SHUTTLE ORBITER

CONFIGURATIONS 3 AND 3A IN THE AMES RESEARCH CENTER
3.5-FOOT HYPERSONIC WIND TUNNEL (0A23)

By

T. J. Dziubala and M. D. Milam, Rockwell International J. W. Cleary and J. A. Mellenthin, NASA Ames

Prepared under NASA Contract Number NAS9-13247

Ву

Data Management Services Chrysler Corporation Space Division New Orleans, La. 70189

for

Engineering Analysis Division

Johnson Space Center
National Aeronautics and Space Administration
Houston, Texas

#### WIND TUNNEL TEST SPECIFICS:

Test Number:

ARC 3.5-168

NASA Series No:

0A23

Test Date:

19 July to 31 July, 1973

Model Number:

32-0, 49-0

#### FACILITY COORDINATOR:

S. L. Treon
Mail Stop 227-5
Ames Research Center
Moffett Field, California 94035

Phone: (415) 965-5850

#### PROJECT ENGINEERS:

T. J. Dziubala and M. D. Milam

Rockwell International Space Div.

12214 Lakewood Blvd.

Mail Code AC-07

Downey, California 90241

J. W. Cleary and J. A. Mellerthin

NASA/Ames Research Cen'er

Mail Stop 229-1

Moffett Field, California 94035

Phone: (415) 965-6211

Phone: (213) 922-4185

#### DATA MANAGEMENT SERVICES:

Prepared by:

Liaison-D. A. Sarver, M. J. Lanfrance

Operations -- B. W. Myers

Reviewed by:

B. J. Burst, J. L. Glynn A.

Approved:

N. D. Kemp, Manager

Data Management Services

Concurrence:

J. G. Swider, Manager Flight Technology Branch

LIEUR TECHNOTORY DI MICH

Chrysler Corporation Space Division assumes no responsibility for the data presented other than display characteristics.

RESULT: OF TESTS OF 0.010- AND 0.015-SCALE MODELS

OF SPACE SHUTTLE ORBITER CONFIGURATIONS 3 and 3A IN THE

AMES RESEARCH CENTER 3.5-FOOT HYPERSONIC WIND TUNNEL (0A23)

Ву

T. J. Dziubala and M. D. Milam, Rockwell International J. W. Cleary and J. A. Mellenthin, NASA/Ames

#### ABSTRACT

Tests were conducted on a 0.010-scale model of the Configuration 3 and a 0.015-scale model of the Configuration 3A Space Shuttle Vehicle orbiter in the Ames Research Center 3.5-Foot Hypersonic Wind Tunnel.

Longitudinal and lateral-directional stability and control characteristics were evaluated at Mach numbers of 5.3, 7.3 and 10.3 at angles of attack up to 50 degrees with  $\beta$  = 0 degrees and, for a few cases,  $\beta$  = 5 degrees. Six-component force data, fuselage base pressures and shadow-graph patterns were recorded.

# TABLE OF CONTENTS

AD = 100 - 1	Pag
ABSTRACT	ii
INDEX OF MODEL FIGURES	
INDEX OF DATA FIGURES	
NOMENCLATURE	
INTRODUCTION	1:
CONFIGURATIONS INVESTIGATED	1]
TEST FACILITY DESCRIPTION	
TEST PROCEDURE	16
DATA REDUCTION	. 17
TABLES	18
I TEST CONDITIONS	
A. O139B MODEL	
B. 0147B MODEL	51
II DATA SET/RUN NUMBER COLLATION SUMMARY	22
III MODEL COMPONENT DESCRIPTIONS	23
FIGURES	26
MODEL	44
DATA	81
APPENDIX	

TABULATED SOURCE DATA

### INDEX OF MODEL FIGURES

Figure	<u>Title</u>	Pase
1.	Axis Systems.	41
2.	Model Sketches.	
	a. SSV Orbiter Configuration 3 and 3A Baseline.	45
	b. SSV Orbiter Configuration 3 and 3A Model Nomenclature.	46
	c. Base Pressure Tap Locations.	47
3.	Model Photographs.	
	<ul> <li>Side View Shadowgraph at Mach 5 and 0 Degrees Angle of Attack.</li> </ul>	48
	b. Plan View Shadowgraph at Mach 5 and 0 Degrees Angle of Attack.	49
	c. Side View Gilflow Photograph at Mach 5 and 0 Pegrees Angle of Attack.	50
	d. Bottom View Oilflow Photograph at Mach 5 and 0 Degrees Angle of Attack.	51
	e. Top View Oilflow Photograph at Mach 5 and 0 Degrees Angle of Attack.	52
	f. Side View Shadowgraph, at Mach 7 and 0 Degrees Angle of Attack.	53
	g. Plan View Shadowgraph, at Mach 7 and 0 Degrees Angle of Attack.	54
	h. Side View Oilflow Photograph at Mach 7 and 0 Degrees Angle of Attack.	55
	<ol> <li>Bottom Side Oilflow Photograph at Mach 7 and 0 Degrees Angle of Attack.</li> </ol>	56
	j. Top View Oilflow Photograph at Mach 7 and 0	57

# INDEX OF MODEL FIGURES (Continued)

Figure		<u>Title</u>	Page
	k.	Side View Shadowgraph at Mach 10 and 0 Degrees Angle of Attack.	58
	1.	Side View Shadowgraph at Mach 5 and 20 Degrees Angle of Attack.	59
	m.	Plan View Shadowgraph at Mach 5 and 20 Degrees Angle of Attack.	60
	n.	Side View Oilflow Photograph at Mach 5 and 20 Degrees Angle of Attack.	61
	0.	Bottom View Oilflow Photograph at Mach 5 and 20 Degrees Angle of Attack.	62
	p.	Top View Oilflow Photograph at Mach 5 and 20 Degrees Angle of Attack.	63
	q.	Side View Shadowgraph at Mach 7 and 20 Degrees Angle of Attack.	64
	r.	Plan View Shadowgraph at Mach 7 and 20 Degrees Angle of Attack.	65
	s.	Side View Oilflow Photograph at Mach 7 and 20 Degrees Angle of Attack.	66
	t.	Bottom View Oilflow Photograph at Mach 7 and 20 Degrees Angle of Attack.	67
	u.	Top View Oilflow Photograph at Mach 7 and 20 Degrees Angle of Attack.	68
	٧.	Side View Shadowgraph at Mach 10 and 20 Degrees Angle of Attack.	69
	w.	Side View Shadowgraph at Mach 5 and 40 Degrees Angle of Attack.	70
	x.	Vlan View Shadowgraph at Mach 5 and 40 Degrees Angle of Attack.	71

# INDEX OF MODEL FIGURES (Concluded)

Figure		<u>Title</u>	Page
	y.	Side View Oilflow Photograph at Mach 5 and 40 Degrees Angle of Attack.	72
	z.	Bottom View Oilflow Photograph at Mach 5 and 40 Degrees Angle of Attack.	73
	aa.	Top View Oilflow Photograph at Mach 5 and 40 Degrees Angle of Attack.	74
	bb.	Side View Shadowgraph at Mach 7 and 40 Degrees Angle of Attack.	75
	cc.	Plan View Shadowgraph at Mach 7 and 40 Degrees Angle of Attack.	76
	đđ.	Side View Oilflow Photograph at Mach 7 and 40 Degrees Angle of Attack.	77
	ee.	Bottom View Oilflow Photograph at Mach 7 and 40 Degrees Angle of Attack.	78
	ff.	Top View Oilflow Photograph at Mach 7 and 40 Degrees Angle of Attack.	79
	gg.	Side View Shadowgraph at Mach 10 and 40 Degrees Angle of Attack.	80

#### INDEX OF DATA FIGURES

	TITLE	COEFFICIENT SCHEDULE	VARYING PARAMETERS	PAGE NUMBERS
Fig. 4	ELEVON EFFECTS 147B CONFIGURATION (0.015-SCALE)	A,B,C,D	ELEVON, BDFLAP DE, ALPHA	1-123
Fig. 5	BODY FLAP EFFECTS 147B CONFIGURATION (0.015-SCALE)	A,B,C,E	ELEVON, BDFLAP DBF, ALPHA	124-246
fig. 6	SIDESLIP EFFECTS 147B CONFIGURATION (0.015-SCALE)	F	BETA, MACH, ALPHA	247-261
Fig. 7	ELEVON EFFECTS 139B CONFIGURATION (0.010-SCALE)	A,B,C,D	ELEVON, DE, ALPHA BDFLAP	262-421
Fig. 8	BODY FLAP EFFECTS 139B CONFIGURATION (0.010-SCALE)	A,B,C,E	BDFLAP, DBF, ALPHA ELEVON	422-553
Fig. 9	SIDESLIP EFFECTS 139B CONFIGURATION (0.010-SCALE)	F	BETA, MACH, ALPHA	554-568
Fig. 10	COMPONENT BUILDUP 139B CONFIGURATION (0.010-SCALE)	Λ	CONFIGURATION	569-582
Fig. 11	AILERON EFFECTS 139B CONFIGURATION (0.010-SCALE)	G	ELEVON, DA	583-591
Fig. 12	SPEED BRAKE/RUDDER EFFECTS 139B CONFIGURATION (0.010-SCALE)	н	RUDDER	592-600

Ç

#### INDEX OF DATA FIGURES (Concluded)

### COEFFICIENT SCHEDULE

A:
CL, CN, CD, CDF, CA, CAF, CAB
CLMFWD, CLMAFT, XCP/L, L/D VS. ALPHA

CL, CN VS. CLMFWD CL VS. CD

B:
DCL, DCN, DCD, DCDF, DCA, DCAF,
DCAB, DCMFWD, DCMAFT VS. ALPHA

C:
 DCL, DCN, DCD, DCDF, DCA, DCAF, DCAB,
 DCMFWD, DCMAFT VS. MACH

D:
DCL, DCN, DCD, DCA,
DCMFWD, DCMAFT VS. DE

E:
DCL, DCN, DCD, DCA,
DCMFWD, DCMAFT VS. DBF

F:
CY, CYN, CBL, DCY/DE
DCYNDB, DCBLDB VS. ALPHA
DCY/DB, DCYNDB, DCBLDB VS. MACH

G: CY, CYN, CBL, DCY/DA, DCYNDA DCBLDA VS. ALPHA

H:
CY, CYN, CBL, DCY/DR,
DCYNDR, DCBLDR VS. ALPHA

#### NOMENCLATURE Genéral

SYMBOL	PLOT SYMBOL	DEFINITION
		speed of sound; m/sec, ft/sec
Cp	CP	pressure coefficient; $(p_1 - p_{\infty})/q$
М	MACH	Mach number; V/a
p		pressure; N/m , psr
-1	Q(NSM) Q(PSF)	dynamic pressure; i/(\rho V^2, N/m^2, psf
RN/L	RN/L	unit Reynolds number; por m, per ft
v		velocity; m/sec, ft/sec
α	ALPHA	angle of attack, degrees
β	BETA	angle of sideslip, degrees
Ψ	PSI	angle of yaw, degrees
$\phi$	PHI	angle of roll, degrees
ρ		mass density: $k_B/m^3$ , slugs/ft <sup>3</sup>
	Ref	erence & C.G. Definitions
Ab		base area; m <sup>2</sup> , ft <sup>2</sup>
b	BREF	wing span or reference span; m, ft
C.E.		center of gravity
<b>L</b> rest	LREP	reference length or wing mean errodynamic chord; m, ft
3	SREF	wing area or reference area; $m^2$ , $ft^2$
	MRP	moment reference point
$X_{CG}$	XMRP	moment reference point on X axis
	YMRI	moment reference point on Y axis
$z_{\rm CG}$	ZMRP	moment reference point on Z axis
SUBSCRIPT:  b  l s t	<u>s</u>	base local static conditions total conditions free stream REPRODUC

THE TOTAL SECTION OF THE PROPERTY OF THE PROPE

REPRODUCIBILITY OF THE ORIGINAL PAGE IS POUR

# NOMETICLATURE (Continued) Body-Axis System

EYMBOL	PLOT SYMBOL	DEFINITION
	CIN .	normal-force coefficient; normal force
<i>`</i> .	CA	exist-force coefficient; $\frac{\text{axial force}}{2^{S}}$
Ϋ́Υ	CY	rider-Force coefficient; cide force
CyP	CVB	best -force coefficient: $\frac{\text{base force}}{q^{S}}$
		-/ <sub>b</sub> (p <sub>b</sub> - p <sub>∞</sub> )/qS
$c_{A_{\mathbf{I}'}}$	CAF	forebody axial force coefficient, $C_{\mbox{A}}$ - $C_{\mbox{A}_{\mbox{b}}}$
$c_{\rm in}$	CLM	pitching-moment coefficient; pitching moment
$c_{\mathbf{n}}$	CYN	yowing-moment coefficient; yowing moment qSb
° <b>/</b>	CBI,	rolling-moment coefficient; rolling moment qSb
		Stability-Axis System
$c^{\Gamma}$	CL	lift coefficient; $\frac{\text{lift}}{qS}$
$c_{\mathrm{D}}$	CD	drag coefficient; drag
$^{\mathrm{C}}\mathrm{D}_{\mathrm{b}}$	СВВ	buse-drap coefficient; base drag
$c_{D_{\mathbf{f}}}$	CDF	forebody drag coefficient: $c_D - c_{D_b}$
${\tt C}_{f Y}$	СХ	side-force coefficient; ide force
℃m	CLM	pitching-moment coefficient; citching moment qs/REF
$c_n$	CLN	yowing-moment coefficient: yawing moment qSb
Ĺ	CUL	rolling-moment coefficient; rolling moment qSb
L/D	L/D	lift-to-drug ratio; $c_{\rm L}/c_{\rm D}$

REPRODUCIDILITY OF LITTORIGINAL PAGE IS POUR

## NOMENCLATURE (Continued)

### ADDITIONS TO STANDARD LIST

SYMBOL	PLOT SYMBOL	DEFINITION
$c_{m}$ fwd	CLMFWD	pitching moment coefficient about forward center of gravity location.
$c_{m_{aft}}$	CLMAFT	pitching moment coefficient about aft center of gravity location.
$A_{\mathrm{B}_{\mathrm{M}}}$		OMS pod base area, ft. <sup>2</sup>
ASC		sting cavity area, ft. <sup>2</sup>
C <sub>Au</sub>	CA	unadjusted balance output axial-force coefficient.
$\mathtt{c_{P_{b_i}}}$		base pressure coefficient at station i.
ℓ <sub>B</sub>		reference body length, inches.
XCP/1B	XCP/L	longitudinal center of pressure location, fraction of body length
$\Delta C_{ m N}$	DCN	incremental normal force coefficient, algebraic difference of two runs.
$\Delta c_{A}$	DCA	incremental axial force coefficient, algebraic difference of two runs.
$\Delta c_{A_B}$	DCAB	incremental base axial force coefficient, algebraic difference of two runs
$\Delta c_{A_{\mathbf{F}}}$	DCAF	incremental forebody axial force coefficient, algebraic difference of two runs.
$\Delta c_{ m L}$	DCL	incremental lift coefficient, algebraic difference of two runs.
$\Delta c_{D}$	DCD	incremental drag coefficient, algebraic difference of two runs.
$\Delta c_{ m DF}$	DCDF	incremental forebody drag coefficient; algebraic difference of two runs.

# NUMENCLATURE (Continued)

## ADDITIONS TO STATEARD LIST

SYMBOL	PLOT SYMBOL	DEFINITION
$\Delta C_{m}$ FWD	DCMFWD	incremental pitching moment coefficient about forward C.G., algebraic difference of two runs.
ΔC <sub>m</sub> AFC	DCMAFT	incremental pitching moment coefficient about aft C.G., algebraic difference of two runs.
$c_{Y_{\mathbf{\beta}}}$	DCY/DB	side force coefficient derivative with respect to beta. Algebraic difference of the side force coefficient of two runs divided by the algebraic difference of the side slip angle of the runs; per degree.
C <sub>ri,j</sub>	DCYNDB	yawing moment coefficient derivative with respect to beta. Algebraic difference of the yawing moment coefficient of two runs divided by the algebraic difference of the side slip angle of the runs; body axis system; per degree.
C <sub>&amp;B</sub>	DCBLDB	rolling moment coefficient derivative with respect to beta. Algebraic fifference of rolling moment coefficient of two runs divided by algebraic difference of side slip angle of the runs; body axis system; per degree.
CY &a	DCY/DA	side force coefficient derivative with respect to total aileron deflection. Algebraic difference of the side force coefficients of two runs divided by the algebraic difference of the total aileron deflection angle of the runs; per degree.
c <sub>n</sub> da	DCYNDA	yawing moment coefficient derivative with respect to total aileron deflection. Algebraic difference of the yawing moment coefficient of two runs divided by the algebraic difference of the total aileron deflection angle of the runs; body axis system; per degree.
c <sub>l</sub> <sub>δ<sub>a</sub></sub>	DCBLDA	rolling moment coefficient derivative with respect to total aileron deflection. Algebraic difference of the rolling moment coefficient of two runs di- vided by the algebraic difference of the total aile- ron deflection angle of the runs; body axis system; per degree.

## NOMENCLATURE (Continued)

# ADDITIONS TO STANDARD LIST

SYMBOL	PLOT SYMBOL	DEFINITION
c <sub>Yőr</sub>	DCY/DR	side force coefficient derivative with respect to rudder deflection. Algebraic difference of the side force coefficient of two runs divided by the algebraic difference of the rudder deflection angle of the runs; body axis system; per degree.
$^{\mathrm{c}}_{\mathrm{n}_{\delta_{\mathrm{r}}}}$	DCYNDR	yawing moment coefficient derivative with respect to rudder deflection. Algebraic difference of the yawing moment coefficient of two runs divided by the algebraic difference of the rudder deflection angle of the runs; body axis system; per degree.
°¢ <sub>6</sub> r	DCBLDR	rolling moment coefficient derivative with respect to rudder deflection. Algebraic difference of the rolling moment coefficient of two runs divided by the algebraic difference of the rudder deflection angle of the runs; body axis system; per degree.
$\delta_{\mathrm{BF}}$	BDFLAP	body flap deflection angle, positive deflection trailing edge down; degrees.
δ <sub>r</sub>	RUDDER	rudder deflection angle, positive deflection trailing edge left; degrees.
<sup>8</sup> S₽	SPDBRK	split rudder deflection angle, left split rudder trailing edge left and right rudder trailing edge right, $\delta_{\rm SB} = (\delta_{\rm r_L} + \delta_{\rm r_R})/2$ , positive deflection; degrees.
$^{\delta}$ eL		left elevon surface deflection angle, positive deflection trailing edge down; degrees
$^{\delta}$ eR		right elevon surface deflection angle, positive deflection trailing edge down, degrees.
δ <sub>e</sub>	ELEVON	surface deflection angle, positive deflection trailing edge down, degrees $(\delta_{e_L} + \delta_{e_R})/2$ .

# NOMENCIATURE (Concluded)

# ADDITIONS TO STANDARD LIST

SYMBOL	PLOT SYMBOL	DEFINITION
$\delta_{\mathbf{a}}$	AILRON	aileron deflection angle, positive deflection trailing edge down; degrees $(\delta_{e_L} - \delta_{e_R})/2$ .
Δ.	D <b>A</b>	incremental aileron deflection angle, algebraic difference of two runs; degrees.
Δδ <sub>e</sub>	DE	incremental elevon deflection angle, algebraic difference of two runs; degrees.
Λδ <sub>BF</sub>	DBF	incremental body flap deflection angle, algebraic difference of two runs; degrees.

#### INTRODUCTION

i |

This document presents the results of tests conjucted on 0.010and 0.015-scale models of the Space Shuttle Vehicle (SSV) orbiter representing Configurations 3 and 3A, respectively. Elevon and body flap effectiveness were determined for both models; aileron, speed brake and rudder effectiveness as well as the contributions due to model components were also evaluated for the smaller model.

The tests were performed in the Ames Pesearch Center (ARC) 3.5-Foot Hypersonic Wind Tunnel (HWT) at M = 5.3, 7.3 and 10.3 as Ames test number 3.5-168. The smaller model (Model 32-0) was tested at angles of attack up to 50 degrees whereas the larger model (Model 49-0) was limited to 40 degrees due to tunnel blockage considerations. Most data were acquired at  $\beta$  = 0 degrees, with a few runs being made at  $\beta$  = 5 degrees.

Six-component force balance data, fuselage base pressure and shadow-graph data were recorded for both models. Temperatures were measured on the small model in the fuselage nose and on the underside of the balance block in the vicinity of the wing-attachment bolts.

Twenty-five runs were made on the large model and thirty-seven runs on the small model during the period July 19 to 31, 1973.

#### CONFIGURATIONS INVESTIGATED

The test articles were 0.010- and 0.015-scale force models of the Space Shuttle Vehicle (SSV) orbiter Configurations 3 and 34, respectively. The models were built by Rockwell International and identified as 32-0 (0.010-scale) and 49-0 (0.015-scale). The 0.015-scale model was constructed of Armoo 17-4 stainless steel with the following removable components: wing, vertical tail, canopy orbital maneuvering subsystem-reaction control subsystem (OMS-RCS) pods, and body flap. The fuselage of the 0.010-scale model was constructed of 7075 T-6 aluminum and the wing was constructed of stainless steel. The 0.010-scale model had the same removable components as the 0.015-scale model. The wing was capable of elevon deflections of 0, ±5 degrees, 10 degrees, -15 degrees, -20 degrees, -25 degrees, -30 degrees, -35 degrees, and -40 degrees. The body flap could be set at deflections of 0 degree, +13.75 degrees, and -14.25 degrees. Rudder and speedbrake deflections are shown below:

Speedbrake Settings

 $\delta_{SB} = 54.92^{\circ}$ 

 $\delta_{SB} = 84.92^{\circ}$ 

Available Rudder Deflections

 $\delta_r = 0^{\circ}, -10^{\circ}, -20^{\circ}$ 

 $\delta_r = 0^\circ, -10^\circ$ 

The following nomenclature has been used to designate model components:

Component	<u>Definition</u>
B <sub>19</sub>	Basic fuselage of the SSV orbiter Configuration 3(VL70-000139B)
B <sub>22</sub>	Basic fuselage of the Rockwell International SSV orbiter Configuration 3A (VL70-000147B)
<sup>c</sup> 7	Basic Configuration 3A canopy built to drawing lines VL70-000139B
E3	Elevons on the basic W <sub>107</sub> wing (VL70-000139B)
F <sub>5</sub>	Basic Configuration 3A body flap (VL70.000139B)
M <sub>14</sub>	Basic Configuration 3A OMS-RCS pods (VL70-000145) including $N_8$ OMS engine nozzles
<b>N</b> 8	Basic QMS nozzle of Configuration 2A (VL70-008306 and VL70-000089B)
о 139 <b>в</b>	B C E F M N R R V W 107
O 147B	B C E F M F R V W 22 7 23 5 4 8 5 7 111
R <sub>5</sub>	Basic Configuration 3A rudder (VL70-000139B)
v <sub>7</sub>	Basic Configuration 3A vertical tail (VL70-000139B)
W <sub>107</sub>	Basic Configuration 3 wing (VL70-000139B)
W	Basic configuration 3A wing (VL70-000147B)

The Configuration 3 and 3A baseline is shown in Figure 2a and model nomenclature is illustrated in Figure 2b. Two sets of dimensional data sheets follow: the first is for the 0.010-scale model and the second is for the 0.015-scale model.

#### TEST FACILITY DESCRIPTION

The NASA-Ames 3.5-Foot Hypersonic Wind Tannel is a closed-circuit. blowdown-type tunnel cupable of operating at nominal Mach numbers of 5, 7, and 10 at pressures to 1800 psia and temperatures to 3400°R for run times to four minutes. The major components of the facility include a gas storage system where the test gas is stored at 3000 psi, a storage heater filled with aluminum-oxide pebbles capable of heating the test gas to 3400°R, axisymmetric contoured nocales with exit diameters of 42 inches for generating the desired Mach number, and a 300,000 ft vacuum storage system which operates to pressures of 0.3 psia. The test section itself is an open-jet type enclosed within a chamber approximately 12-feet in diameter and 40-feet in length, arranged transversally to the flow direction.

A model support system is provided that can pitch models through an angle-of-attack range of -20 to +18 degrees, in a vertical plane, about a fixed point of rotation on the tunnel centerline. This rotation point is adjustable from 1 to 5 feet from the nozzle exit plane. The model normally is out of the test stream (strut centerline 37-inches from tunnel centerline) until the tunnel test conditions are established after which it is inserted. Insertion time is adjustable to as little as 1/2 second and models may be inserted at any strut angle.

A high-speed, analog-to-digital data acquisition system is used to record test data on magnetic tape. The present system is equipped to measure and record the outputs from 80 transducers in addition to 20 channels of tunnel parameters.

#### TEST PROCEDURE

The models were sting mounted from the smaller of the two available model support struts in the ARC 3.5-Foot Hypersonic Wind Tunnel. The same Task Corporation MK IID internal strain gauge balance used in tests OALLB and OA58 was supplied by ARC to measure the six-component loads acting on the 0.015-scale model. A Task Corporation MK XIVA balance was supplied by ARC for use with the 0.010-scale model. Thermally insulating glass/silicon sleeves were used with both balances.

Rockwell sting W-1101-S, mounted 3.5 inches below tunnel centerline, was used for both models. This sting is provided with interchangeable bent adaptors just behind the balance socket which enable high angles of attack and sideslip angles of 0° and 5° to be achieved. Adaptors with 20°, 30° and 40° bend angles were used in this test.

Five one-sixteenth-inch ID stainless steel tubes were routed externally along the sting to sense pressures at the base of the models at points shown in Figure 2c. The pressures were measured by individual 0-to5 psia cells located in the model support strut.

Runs were normally made by pitching the model from the maximum positive angle of attack to the lowest angle in order to minimize tunnel blockage at the higher vacuum sphere pressures near the end of a run.

Run 7 was made by pitching in the reverse direction and run 22 was made by pitching up and then pitching down to determine if there was any aerodynamic hysteresis.

#### DATA REDUCTION

Standard ARC methods were used to compute coefficient data. Aero-dynamic coefficients are presented in body axes and stability axes systems. Axial-force and drag coefficients and the ratio of lift to drag are presented with and without adjustments of the fuselage base pressure to free stream static pressure.

Base pressure coefficients were computed by:

$$C_{P_{b_i}} = \frac{P_{b_i} - P_{o}}{q}$$

where i = 1 through 5.

Base axial-force coefficients were computed by:

 $c_{A_{b}} = -\frac{1}{5} \frac{(A_{B} + A_{B_{M}} + A_{SC})}{S} \sum_{i=1}^{5} c_{P_{b_{i}}}$ 

Note: Except for the following conditions:

RB6001, M=5, CPB1 & CPB2

RB6002, M=5, CPB2

RB6030, M=5, CPB2 RB6031, M=5, CPB2

where  $A_B =$  fuselage base area, ft<sup>2</sup>

 $A_{B_M}$  = total base area of two OMS pods, ft<sup>2</sup>

 $A_{SC}$  = sting cavity base area, ft<sup>2</sup>

S = wing reference area, ft<sup>2</sup>

Forebody axial-force coefficients were computed by:

$$C_{A_f} = C_{A_u} - C_{A_b}$$

where  $C_{A}$  = unadjusted axial-force coefficient

## DATA REDUCTION (Continued)

Center-of-pressure location was computed in percent of body length by:

$$x_{CP}/l_B = \left[x_{CG} - \frac{c_m \epsilon}{c_N}\right]/l_B$$

1

where  $X_{CG}$  = center-of-gravity location aft of model nose, inches

 $l_{\rm B}$  = reference body length, inches

Lift-to-drag ratios based on  $C_{A_{_{11}}}$  and  $C_{A_{_{_{f}}}}$  were computed by:

Using  $C_A$ ,  $L/D = (C_L/C_D)$ Using  $C_{A_f}$ ,  $L/D_f = (C_L/C_D)_f$ 

neference	Dimensions and Constants	Va	lue
Symbol	Definition	0.015-Scale	0.010-Scale
AB	Net fuselage base area normal to balance axis:		
	Mu on, F <sub>5</sub> on	0.045 £t <sup>2</sup>	0.020 ft <sup>2</sup>
	M <sub>14</sub> on, F <sub>5</sub> off	0.048 ft <sup>2</sup>	0.021 ft <sup>2</sup>
	M <sub>14</sub> off, F <sub>5</sub> on	0.047 ft <sup>2</sup>	0.021 ft <sup>2</sup>
	M <sub>4</sub> off, F <sub>5</sub> off	0.050 ft <sup>2</sup>	0.022 ft <sup>2</sup>
$^{\mathbf{A}}_{\mathbf{B}_{\mathbf{M}}}$	Base area of two OMS pods	0.019 ft <sup>2</sup>	0.008 tt <sup>2</sup>
A <sub>SC</sub>	Sting cavity base area	0.034 ft <sup>2</sup>	0.015 ft <sup>2</sup>
ъ	Span, wing	14.050 in	9.367 in
X <sub>CG</sub>	*Ref C.G.	12.577 in	8.385 in
z <sub>CG</sub>	Ref C.G.	FRL(Z=6.00in)	FRL (Z=4.00in)
C bal X	Center, balance	16.63 in	10.670 in

<sup>\*</sup>Longitudinal distance, orbiter nose to moment reference center

# DATA REDUCTION (Concluded)

₹	MAC, wing	7.122 in	4.748 in
$\boldsymbol{l}_{\beta}$	Ref body length	19.35 in	12.903 15
S	Ref wing area	0.605 ft <sup>2</sup>	0.269 3+2

TABLE I. a. 0139B Model

11

ST : 0A23 (3	.5-168)		DATE: July, 19
	TEST CO	PINDITIONS	
MACH NUMBER	REYNOLDS NUMBER (per unit length)	DYNAMIC PRESSURE (pounds/sq. inch)	STAGNATION TEMPERAT (degrees Fahrenheit)
			740
5.3	1.35 x 106	2.57 3.68	740
7.3	2.50 x 106 1.74 x 10 <sup>6</sup>	2.29	1540
	1.0 × 10 <sup>6</sup>		1540
10.3 *	1.0 X 10°	1.27	1540
			<del>                                     </del>
			<del>                                     </del>
			1
			<b>†</b>
			<del> </del>
			+
BALANCE UTILIZED:	Task MK XIVA 1.0-	-inch Dia.	
DALANGE OTTELLES.			COEFFICIENT
	CAPACITY:	ACCURACY:	TOLERANCE:
NF	800 lb.	1/2%	
SF	400 1ъ.	1/2%	
AF	100 lb.	1/2%	
PM	1600 inlb.	1/2%	
RM	250 inlb.	1/2%	
Ст	660 in1b.	1/2%	
YM		The second live to the second li	

TABLE I. - Concluded. b. 0147B Model

MACH NUMBER	REYNOLDS NUMBER (per unit length)	DYNAMIC PRESSURE (pounds/sq. inch)	STAGNATION TEMPERATU (degrees Fahrenheit)
5.3	1.35 x 10 <sup>6</sup>	2.57	740
7.3	2.50 x 10 <sup>6</sup>	3.68	740
10.3	1.74 x 10 <sup>6</sup>	2.29	1540
			,
BALANCE UTILIZED:	Task MK IID 1.5-in		COEFFICIENT
	CAPACITY:	ACCURACY:	TOLERANCE:
NF	1000 lb.	1/2%	4- <u>1- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1</u>
SF	500 lb.	1/2%	
AF	3000 inlb.	1/2%	
PM	800 inlb.	1/2%	
RM YM	1250 nnlb.	1/2%	

	23 (AV 17.7-168)										N SUMN						13		
DATA SET	CONFIGURATION				IRC D			NO. OF			10,2	OR AL	TERNA	TE IND	EPEND	ENT VA	RIABLE	<del> </del>	T
266:01	1178 N 1 100	1//	0		-142			RUNS	10	72	2		<del> </del>	1-	+	_	+	+	1
	147B Mad. 19-0	=	5	0	7	7	\ <del>``</del>	<del>                                     </del>	9	26	P		<del> </del>	†	<del>                                     </del>	1	+	+	1
CE ZA		╁┼╌	1	4^	+	-	-	<del> </del> -	13	111	4/1		<del> </del>	-	+	+	<del></del>	+	1
734		+		-20	++-		+-	-	/=-	54	19/		-	-	<del> </del> -	<del>                                     </del>	<del>-}</del>	+	1
7.1		╂┼╌	-	سرا	╁	-	-	<del> </del>		15	2	ļ	<del>                                     </del>	<del> </del>	+			+-	1
			H	/:_	0	-	-	}	14	2.	<del>                                     </del>		<del> </del>	<del> </del>	<del> </del>	+	+	+-	1
		<del>[</del>	H	-1	<del>                                     </del>	-	<del> </del>	-	//	21	<del>                                     </del>	<u> </u>	<del> </del>	<del> </del>	╁	+-	<del></del>	┼	- ES
<u> </u>		+	╁	-	0	<b>-</b>	+-	-	<del></del>		/		<del> </del> -	<del> </del> -	<del> </del>	+		+	1 2
O'VIA		-	╁	0	1375	<u> </u>	-	ł	/:	7/ -	-1		<del> </del>	<del> </del>	<del> </del>	+	+	+	Į Ž
FIR		╀┸	1	/ <u>~</u>	15:75	<u> </u>	1		1:		-+		<del> </del> -	<del> </del>	<del> </del>			<del> </del>	- S
201		13.	├-	<del> </del>	<del> </del>			-	<u> </u>		<b> </b>		<del> </del>	<del> </del>		<del></del> -	<del></del>	-	ERS
860 10	131611163	1	$\subseteq$	C	1	<u>~</u> 5	9		ļ <u>.</u>	· ·				<del> </del>	┼	<del> </del>	<del> </del>	<del> </del>	-
//		$\vdash$	H	, , ,	13.75					· .	ļ		<b>}</b>	<del> </del>		<del>- </del> -	<del></del>	<b>├</b>	4
1/2		<b>-</b>	-		-1429			<u> </u>	56	21			<b>↓</b>	<del> </del>	<del> </del>	<del> </del>	<del></del>	<del></del>	1
12	<u>_</u>	Ÿ	<b>   </b>	10	- <b>/4.</b> 2≤	<u> </u>	4			£; .			<u> </u>	<b></b> _	↓	<del> </del>	<del> </del>	<del> </del>	4
		_		ļ								·	<b> </b>	! <del> </del> -	<b> </b>	<del>                                     </del>	<del></del>	<b>├</b>	4
	1398 MC1-32-0	E	0	10	13.75	ان ن	2		ا سی	٠٠٠			ļ		<b>}</b>	<del> </del>	<del> </del>	<del> </del>	-[
16/6			4	-10	13.75		<b> -</b>			بن ن			<u> </u>		i	<del> </del>	<del></del>	<del> </del>	
111	<u> </u>	1	Y	-40	0	<u> </u>	1			34							<del></del> .	<u> </u>	L
7				25		31		37		43	49 ()		55	\	61		67		757
4	14. CEL L/1 8 H: 2° +	بب	لب	CD		ICP.	سب	CP.		CP3.	نكب	2	-KZ	فسا	IM HO	17	JA,L,P	FA	
a or	B: 12 to	9 4	0				DEFFI	CENTS		۷.	1478 = A	822 C7	Ez3F	MAN	8 R5V	WILL	10VA ((15 107 (6	SCALE	֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓

ည

É

TABLE II. (Continued)

DAT	A SET	CONFIGURATION	Sc	HD.	CONT	ROL E	EFLE	CTION	NO.	MA	CH NUN	BERS	OR AL	TERNA	TE IN	EPEND	ENT VA	FIABLE	)	_
	TIFIER		a	_					RUNS		73									_
CEL!	1/14F	1315 MOR 30-0	R	U	40	14.25	55	0	<b> </b>	3	37/3:		<u> </u>	<u> </u>	<u> </u>	<b>_</b>	<del>                                     </del>			
	19		扛	ഥ	-30	工				L	- 1	<u> </u>				<u> </u>				
			Ш	Ш	-20		LL			5.1.	38		<u> </u>							
	21		Ш	Ш	10						-17								<u>L.</u>	
	22		$\prod$	Ш	1/10						.7.									
	22.51		$\Pi$	Ш	7/5						41			Ì						
	24		$\prod$	1	7						42									
			1	Ŝ	0			+	ĺ	5%	43									
	26		R	0	I		1	-10			4-+									_
	21		$\Pi$	IT			83	(			-/.:									
	28	•	TF	П	1		85	-10			17									
	27	EngCyFe Vy Kelia	E	$\prod$	<b> </b> -		<i>5</i> 5	0			46									
		KACTE	1	П							41									
		Big Co	11	I			_				18					1		1		
	20	1378 MIL 1 3	B	5	0	14.25	نځ	O				7.				1	1	1		
	1		B	3	0	14.25	22.5					,					1			
	.11		17	T	于			i								1	1			
-	- 1		1			13.75						6.1	<b>†</b>		<b></b>	<del>                                     </del>	1	1		7
	<u> </u>	13 19	-	سنسا		X	31				••		L		L	ـــــــــــــــــــــــــــــــــــــ	<u></u>			
².N.	. 10 1/2	R. C.C.M. C.C	·		25 (C.D.		31 (4,1)	, .	37 10	2	43 • • • • • • • • •	49	id	55	· <	MAR	Н	1/ 1	: A	ť
~		в <u>Л: 2°</u> 7; Es <u>В: 12;</u>	سبد			<del></del>	CC	DEFFI	CENTS				ست	نائلنا م	للحال	, 10v	/AR (I)	10VA . 02.	R (2)	4

TABLE II. (Concluded)

DATA SET		sc	HD.	CONT	ROL D	EFLE	TION	NO.	MA	CH NU	ABERS (	OR AL	TERNA	TE IND	EPENDE	ENT VAL	RIABLE	)	
DENTIFIER	CONFIGURATION	a	β	PER	a)BF	جَو	એષ્ટ	OF RUNS	5.2	7.2	10.2								1
<i><b>EE4036</b></i>	1398 NOU 32-0	B	0	10/10	13.75	55	0				62								1
31		1	T	4240	14.25	T	T				65					1			
38		11	$\Pi$		14.25						15-7				<u> </u>	<b>†</b>			1
		1	<u> </u>	7.40			<u> </u>	<b> </b>									<b>T</b>		-
		+	<b>f-</b> -	-							<del>                                     </del>			<del>                                     </del>		<del>                                     </del>	<del> </del>	_	1
		+	-							<b> </b>	<del> </del> -	<del> </del>		<del> </del>	<del> </del>	<del> </del>	<del> </del>	+	4
		+	<del> </del>								<del> </del>	<del> </del>		<del> </del>	-	<b>├</b>	<del> </del>	<del>}</del>	4
		┦—		-			ļ				ļ	ļ		<del> </del>	ļ	<del>                                     </del>	<del> </del>	∔	4
											<u> </u>	( <del> </del>					<del>                                     </del>	<del> </del>	1
														<u> </u>	<u></u>				i
		$\top$																	1
		1									<del> </del>			1	<del> </del>	<b> </b>	<del>                                     </del>	<b>†</b>	1
		+-	_												<del>                                     </del>	<del> </del>	<del> </del>	<del> </del>	4
		+		-												<del> </del>	<del> </del>	<del> </del>	4
		4														<b></b>	<b></b>	<del>↓</del>	4
																<b> </b>	ļ	<del> </del>	
					j														
	7 73 19			25		31		37		43	40				61	<u> </u>	67	,	7:
<i>u</i>	PA CLM C YN DE M: // B M: // LES <u>E: 12 10</u>	,	<u> </u>	CI		C.D.	<del></del>	17.10	2.	127	1, 2	1.1.1.	55 10 Z	١٠/	Atno	Н	W/P	H. A.	نز

3

# .A.I. III. - MODEL COMPONENT DESCRIPTIONS

### Dimensional Data for the 0.010-Scale Model

Model Component: Body (B1	9)	
General Description: Configur	ation 3A lightweight	orbiter fusclage
Model scale = 0.010 Mod	el Drawing No. SS-A	100062
Drawing Number: VL70-00013	19B •	
Dimensions:	Full-Scale	Model Scale
Length - in.	1290.3	12.903
Max width $-$ in, (at $X_0 =$	267.6	2.676
1528.3 in.) Max depth $\sim$ in. (at $X_0 =$	244.5	2,445
1480.52 in.) *Fineness ratio	4.846_	4.846
Area - ft <sup>2</sup>		
Max cross-sectional (at Xo = 1480.52 in.)	386.67	0.03867
Planform		
Wetted		
Base		

<sup>\*</sup>Fineness ratio is the fuselage length divided by the equivalent diameter for the maximum cross-sectional area.

# TABLE III. - Continued.

Model Component: Body (B	22)	
General Description: Fuselag	ge, configuration 3A l	ightweight orbiter
Note: Identical to B17 except		
	Model s	cale = 0.015
Drawing Number: VL70-000	)139B ·	
Dimensions:	Full-Scale	Model Scale
Length - in.	1290,3	19.35450
Max width - in.	267.6	4.0140
Max depth - in.	244.5	3,66750
Fineness ratio	4.84601	4.84601
Area ~ ft <sup>2</sup>		
Max cross-sectional	386.67	0.08700
Planform		
Wetted		
Base		

Model Component: Canopy (07	1	
General Description: Configura	tion 3A lightweigh	nt orbiter canopy
Model scale = 0.010 Model	Drawing No. SS	- A00062
Drawing Number: VL70-000139	B	
Dimensions:	Full-Scale	Model Scale
Length $\sim$ in. $(X_0 = 433 \text{ in. to}$ $X_0 = 670 \text{ in.})$ Max width $\sim$ in.	237	2.370
Max depth ~ in.		And the latest to the latest t
Fineness ratio Area ~ ft <sup>2</sup>		
Max cross-sectional		
Planform		
Wetted		
Base		

# TABLE III. - Continued.

()

MODEL COMPONENT:	Canopy - C7	!	
		<b>;</b> .	
GENERAL DESCRIPTION:	Configuration 3 per	r Rockwell Lines	VL70-000139
Model Scale = .015			
DRAWING NUMBER	<u>VL70-000139</u>		
DIMENSION:		FULL SCALE	MODEL SCALE
Length ( $X_0 = 433 \text{ t}$	$x_0 = 670$ ) - in. FS	237	3.5550
Max Width			
Max Depth $(Z_0 =$	to $Z_0 = 501) - i$	n FS	
Fineness Ratio			
Areo			
Max Cross-Sect	ional		
Planform	•		***************************************
Wetted		-	
Base			

TABLE III. - Continued.

Model Component: Elevon (E23)		
General Description: Configuration 3Alightwee Data for 1 of 2 sides	eight orbiter el	evons
Model scale = 0.010 Model Drawing No.	SS-A00109	
Drawing Number: VL70-000139B	•	
Dimensions:	Full-Scale	Model Scale
Area ~ ft <sup>2</sup>	205.52	0.02055
Span (equivalent) ~ in.	353.34	3.5334
Inbd equivalent chord ~ in.	114.78	1.1478
Outbd equivalent chord ~ in.	55.00	0.550
Ratio movable surface chord/ total surface chord		
At inbd equiv chord	0.208	0.208
At outbd equiv chord	0.400	0.400
Sweepback angles ~ deg		
Leading edge	0.00	0.00
Trailing edge	-10.24	-10.24
Hinge line	0.00	0.00
Area moment (normal to hinge line) - ft <sup>3</sup>	1548.07	0.00155

()

# TABLE III. - Continued

Model Component: Elevon (E23)		
General Description: Elevons for wing W <sub>107</sub> (Data for 1 of 2 sides)		
Model scale = 0.015		
Drawing Number: VL70-000139B		
Dimensions:	Full-Scale	Model Scale
Area ~ ft <sup>2</sup>	205. 52	0.04624
Span (equivalent) ~ in.	353,34	5.30010
Inbd equivalent chord ~ in.	114.78	1.72170
Outbd equivalent chord - in.	55.00	0.8250
Ratio movable surface chord/ total surface chord		
At inbd equiv chord	0.208	0.208
At outbd equiv chord .	0.400	0.400
Sweepback angles ~ deg		
Leading odge	0.00	0.00
Trailing edge	-10.24	-10.24
Hinge line	0.00	0.00
Area moment (normal to hinge line) ~ ft <sup>3</sup>	1548.07	0.00522

# TABLE III. - Continued.

Model Component: B	ody flap (F <sub>5</sub> )	
General Description:	Configuration 3Alightweight	orbiter body flap
Model scale = 0.010	Model Drawing No. SS	A00062
Drawing Number: VL70	0-000139B	
Dimensions:	Full-Scale	Model Scale
Length ~ in.	84.70	0.8470
Max width - in.	267.6	2.6760
Max depth - in.		
Fineness ratio	distriction again, design a 11 particular against straight	And the second s
Area - ft <sup>2</sup>		
Max cross-section	aal	
Planform	142, 5195	0.01425195
Wetted		
Base	38.0958	0.00380958

 $\prod_{j}$ 

MODEL COMPONENT:F	5 Body Flap
GENERAL DESCRIPTION:	3 Configuration per Rockwell Lines VL70-000139
7	
Scale Model = .015	·
DRAWING NUMBER	VL70-000139
DIMENSION:	FULL SCALE MODEL SCALE
Length - in	84.70 1.2705
Max Width - in	267.6 4.0140
Ma., Depth	
Fineness Ratio	· .
Area - Ft <sup>2</sup>	•
Max Cross-Secti	onal
Planform	142.5 0.03207
Wetted	
Bose	38.0958 0.00857

Model Component: OMS po	û (M <sub>4</sub> )	
General Description: Confi	guration 3A lightweigh	crbiter orbital
	uvering subsystem poo	
Model scale = 0.010	Model Drawing No. SS	- A00062
Drawing Number: <u>VL70-000</u>	139B ·	
Dimensions:	Full-Scale	Model Scale
Length - in.	346.0	3.460
Max width - in.	108.0	1.080
Max depth ~ in.	113.0	1.130
Fineness ratio		
Area ~ ft <sup>2</sup>		
Max cross-sectional		
Planform		
Wetted		
Base		

Model Component: OMS pod	(M <sub>4</sub> )	
General Description: Basic c Note: M4 identical to M3 of c		
Model scale = 0.015		
Drawing Number: VL70-000	0139B	
Dimensions:	Full-Scale	Model Scale
Length - in.	346.0	5.1900
Max width ~ in.	108.0	1.620
Max depth ~ in,	113.0	1.695
Fineness ratio Arca ~ ft <sup>2</sup>		
Max cross-sectional		Managed Aller Address - The State Con-
Plauform	Specialisate of the Company of the C	Section of the contract of the
Wetted		designation that the day and second the
Base	- Company of the Comp	

MODEL COMPONENT: NOVELES - Ng		
GENERAL DESCRIPTION: Pasic ONS Nozzle of Configuration 2	A per Rockwell I	ines
VU70-008306 and VL70-000089"B". Intersection of no	ozale exit plane	and
nozzle centerline at $X_0 = 1570.75$ , $Y_0 = \pm 99.25$ , $Z_0$	= 507.25	
MODEL SCALE = 0.010	_	
DRAWING NO. VL70-008306, VL70-000039"B", SS-A00092		
	,	···
DIMENSIONS	FULL SCALE	MODEL SCALE
Fach No.		
Length ~ in.	. ,•	
Gimbal Point to Exit Plane		•
Throat to Exit Plane		·
Diameter~in.	•	•
Exit	50.00	_0.500
Throat	N/A	N/A
Inlet	26.00	0.280
Area ~ ft <sup>2</sup> ./Nozzle		_
Edt	13.635	0.00136
Throat		
Gimbal Point (station)~in.	• •	
x	1518.0	15.180
<b>Y</b>	±88.0	0.880
<b>z</b>	492.0	4.920
Null Position~deg.		
•	15°49'	15•491
Pitch Yaw (Outbid)	+12°17'	±1,2°17'
36		The W.

MOZZLES - Ng			
GENERAL DESCRIPTION: Basic OMS Nozz	le of Configuration	2A per Rockwel	l Lines
VL70-008306 and VL70-000089"B".	Intersection of n	ozzle exit plan	e and
nozzle centerline at $X_0 = 1570$ .	75, Y <sub>o</sub> = <u>+</u> 99.25, Z <sub>o</sub>	= 507.25	
MODEL SCALE = 0.015			
DRAWING NO. <u>VL70-008306</u> , VL7C-00008	39"B", SS-AJ0092		
DIMENSIONS		FULL SCALE	MODEL SCALE
Mach No.			
Length ~ in.			
Gimbal Point to Exit Plane			
Throat to Exit Plane	•		<del></del>
AMOUNT OF TAXABLE			
Diameter ~ in.			
Exit		50.00	0.750
Throat		N/A	N/A
Inlet		28.00	.420
Area ~ ft ./Nozzle			
Exit		13.635	0.00204
Throat		*******	
Gimbal Point (station) ~ in.			
x		1518.0	22.77
Y		<u>+</u> 88.0	1.32
2		492.0 -	7.38
Null Position ~ deg.			
Pitch		720110.	15°49'
Yaw (Outb'd)		<u>+</u> 12°17'	<u>+</u> 12°17'
	37	_ <del></del>	

Model Component: Rudd	ler (R <sub>5</sub> )		-
General Description:	Configuration 3A ligh	tweight orbiter	rudder
M. del scale = 0.010	Model Drawing No.	SS-A00062	
Drawing Number: VL VL	.70-000139B .70-000095	•	
Dimensions:		Full-Scale	Model Scale
Area - A <sup>2</sup>		106.38	0.710638
Span (equivalent) ~ i	n.	201.0	2.010
Jabd equivalent chor	rd - in.	91.585	0.91585
Outbd equivalent ch	ord - in.	50.833	0.50833
Ratio movable surfactoral surface chord	ace chord/		
At inbd equiv che	ord	0.400	0.400
At outbd equiv ci	rord	0.400	0.400
Sweepback angles -	deg		
cading edge		34.83	34.83
Trailing edge		26.25	26.25
Hinge line		34.83	34.83
Area moment (norn	nal to hinge line)~ft3	526.13	0.00053

TABLE III. - Continued.

Model Component: Rudder (R5)		
General Description: Rudder for vertical stabi	lizer V <sub>7</sub>	
Model scale = 0.015		
Drawing Number: VL70-000095		
Dimensions:	Full-Scale	Model Scale
Area - ft <sup>2</sup>	106.38	0.024
Span (equivalent) ~ in.	201.0	3.015
Inbd equivalent chord ~ in.	91.585	1.374
Outbd equivalent chord - in.	50.833	0.762
Ratio movable surface chord/ total surface chord		
At inbd equiv chord	0.400	0.400
At outbd equiv chord	0.400	0.400
Sweepback angles - deg	•	
Leading edge	34.83	34.83
Trailing edge	26.25	26.25
Hinge line	34,83	34.83
Area moment (normal to hinge line) ~ ft <sup>3</sup>	526.125	0.0018

Provided Lieffun edg.   Public vertical trial, & abloqueta infollowed	MODEL COMPOSERVE VERFICAL - V	-		
Note   See   10   10   10   10   10   10   10	GENERAL DESCRIPTION:	e vertical trice	d ublay di simfa	) <u>i</u> ' ' '
DRAWING NUMBER:   VL70-000139	rended I din edr.		ar aga aga aga aga aga aga aga aga aga a	ndrendija grapino roda krajanskrajanski sk. post
DRAWING NUMBER:   VIGO-OFFI39	market Some / V5, but with mar	ilinator bousing	r-moved.	
DIMENSIONS:   FULL-SCALE   MODEL SCALE	Mgdn) Serlo = .010			
Area (Theo) Ft2	DRAWING NUMBER:	VI.70-000139	*****	
Area (Theo) Ft <sup>2</sup> Planform  Span (Theo) In Aspect Ratio Rate of laper Taper Patho  Sweep Back Angles, degrees Leading Edge Trailing Edge 0.25 Element Line Rate (Theo) WP Tip (Theo) WP Teus. Sta. of .25 MAC Airfoil Section Leading Wedge Angle Deg Leading Edge Radius Void Area - Ft <sup>2</sup> O.04259  3.1572 4.2559 4	DIMENSIONS:		FULL-SCALE	MODEL SCALE
Planform   Span (Theo) In   302.72   3.1572     Aspect Ratio   2.075   3.072     Rate of laper   0.307   0.507     Taper Patho   0.307   0.507     Sweep Back Angles   degrees     Leading Edge   26.249   27.269     O.25 Element Line   41.75   32.269     Chords:   Rcot (Theo) WP   263.50   2.6850     Tip (Theo) WP   100.75   1.9841     MAC   Pus. Sta. of .25 MAC   14.6350     W. P. of .25 MAC   14.6350     B. L. of .25 MAC   0.60   0.00     Airfoil Section   Leading Wedge Angle   Deg   10.000   10.000     Trailing Wedge Angle   Deg   10.000   10.000     Leading Edge Radius   2.00   0.020     Void Arms - Ft2   33.27   0.00132	TOTAL DATA			
Span (Theo) In       317.72       3.1572         Aspect Ratio       1.075       1.075         Rate of Taper       0.777       0.577         Taper Patho       0.704       0.577         Sweep Back Angles, degrees       0.700       10.000         Loading Edge       1.5.00       10.000         Trailing Edge       26.269       27.299         0.25 Element Line       41.700       1.100         Chords:       20.500       2.6850         Tip (Theo) WP       263.50       2.6850         Tip (Theo) WP       100.00       1.0841         MAC       100.00       1.981         Fus. Sta. of .25 MAC       1463.00       14.250         W. P. of .25 MAC       635.500       6.35522         B. L. of .25 MAC       635.500       6.35522         B. L. of .25 MAC       0.00       0.00         Airfoil Section       10.000       10.000         Leading Edge Radius       2.00       10.000         Void Area - Ft.2       33.320       0.00132	Area (Theo) Ft <sup>2</sup>		425.92	0.04259
Rate of laper	Span (Theo) In			
Taper Patho   Sweep Back Angles   degrees     Leading Edge   L5.00   L5.00     Trailing Edge   26.249   27.269     0.25 Element Line   41.60   L2.450     Chords:   Rcot (Theo) WP   262.50     Tip (Theo) WP   102.60   1.0847     MAC   Fus. Sta. of .25 MAC   14.6350     W. P. of .25 MAC   625.50   6.35522     B. L. of .25 MAC   0.00     Airfoil Section   Leading Wedge Angle Deg   10.00   10.00     Trailing Wedge Angle Deg   10.00   10.00     Leading Edge Radius   2.0   0.00     Void Area - Ft2   33.27   0.00132				
Sweep Back Angles, degrees   Loading Edge   26.249   26.249   26.249   26.249   26.249   26.249   26.249   26.249   26.249   26.249   26.249   26.249   26.249   26.250   26				The same of the sa
Leading Edge		S	-	***************************************
Trailing Edge   26.249   27.269   0.25 Element Line   41.650   41.650   42.550	Loading Edge			15.000
Chords:       Rcot (Theo) WP       263.50       2.6850         Tip (Theo) WP       100.60       1.0847         MAC       199.00       1.9981         Fus. Sta. of .25 MAC       1463.50       14.6350         W. P. of .25 MAC       635.50       6.35522         B. L. of .25 MAC       0.00       0.00         Airfoil Section       0.00       0.00         Leading Wedge Angle Deg       10.00       10.00         Leading Edge Radius       2.0       0.020         Void Area - Ft2       13.00       0.00132			26.24.9	27.269
Rcot (Theo) WP       263.50       2.6850         Tip (Theo) WP       100.60       1.0841         MAC       1981       1.9881         Fus. Sta. of .25 MAC       1463.50       14.6350         W. P. of .25 MAC       635.50       6.35522         B. L. of .25 MAC       6.35522       6.35522         Airfoil Section       0.00       10.00         Leading Wedge Angle Deg       10.00       10.00         Leading Edge Radius       2.0       0.020         Void Area - Ft2       13.30       0.00132			41.35.	$-h_{2}^{2}$ 50
Tip (Theo) WP       1.0841         MAC       100.00       1.9981         Fus. Sta. of .25 MAC       14.6350       14.6350         W. P. of .25 MAC       635.00       6.35522         B. L. of .25 MAC       0.00       0.00         Airfoil Section       0.00       0.00         Leading Wedge Angle Deg       10.00       10.00         Trailing Wedge Angle Deg       14.00       16.00         Leading Edge Radius       2.0       0.020         Void Arms - Ft2       13.00       0.00132			0/0 10	2 4055
MAC       190.00       1.9981         Fus. Sta. of .25 MAC       14.6350       14.6350         W. P. of .25 MAC       635.00       6.35522         B. L. of .25 MAC       0.00       0.00         Airfoil Section       0.00       0.00         Loading Wedge Angle Deg       10.00       10.00         Trailing Wedge Angle Deg       14.90       16.00         Leading Edge Radius       2.0       0.020         Void Arms - Ft2       13.00       0.00132				
Fus. Sta. of .25 MAC  W. P. of .25 MAC  B. L. of .25 MAC  Airfoil Section  Loading Wedge Angle Deg  Trailing Wedge Angle Deg  Leading Edge Radius  Void Arms - Ft2  14.6350  6.35522			100,0	
W. P. of .25 MAC       6.35.00       6.35522         B. L. of .25 MAC       0.00       0.00         Airfoil Section         Leading Wedge Angle Deg       10.00       10.00         Trailing Wedge Angle Deg       10.00       10.00         Leading Edge Radius       0.02       0.020         Void Arms - Ft2       33.00       0.00132	· · · · · ·		1463.	
Airfoil Section         Leading Wedge Angle Deg         10.00         10.00           Trailing Wedge Angle Deg         14.00         16.00           Leading Edge Radius         2.0         0.020           Void Arms - Ft2         33.30         0.00132			635.575	
Loading Wedge Angle         Deg         10.00         10.00           Trailing Wedge Angle         Deg         14.00         16.00           Leading Edge Radius         2.0         0.020           Void Arms - Ft2         33.20         0.00132			(1,(4)	0.00
Trailing Wedge Angle Deg         14.9.1         16.001           Leading Edge Radius         2.0         0.020           Void Arms - Ft2         33.00         0.00132		n.		
Leading Edge Radius         2.0         0.020           Void Area - Ft.2         33,329         0.00132		•		
Void Area - Ft. 0.00132		veg		!!!e
The state of the s				
	Blanketed Area		<u></u>	0.00



Model Component: Vertical tail (V7)-lightweight orbiter configuration			
General Description: Basic configuration	on 3A centerline ve	ertical tail,	
double-wedge airfoil with rounded leading			
Model scale = 0.015			
Drawing Number: VL70-000139, VL70-	000095		
Dimensions:	Full-Scale	Model Scale	
Total Data			
Planform area (theo) - ft <sup>2</sup> Span (theo) ~ in. Aspect ratio Rate of taper Taper ratio Sweepback angles ~ deg Leading edge Trailing edge 0.25 element line Chords ~ in. Root (theo) WP Tip (theo) WP MAC Fus sta of 0.25 MAC WP of 0.25 MAC	425. 92 315. 72 1. 675 0. 507 0. 404 45. 000 26. 249 41. 130 268. 50 108. 47 199. 81 1463. 50 635, 522	0.09583 4.73580 1.675 0.507 0.404 45.000 26.249 41.130 4.02750 1.62705 2.99715 21.9525 9.53283	
BL of 0.25 MAC  Airfoil section  Leading wedge angle - deg  Trailing wedge angle - deg  Leading edge radius - in.  Void area - ft <sup>2</sup> Blanketed area - ft <sup>2</sup>	10.000 14.920 2.00 13.17	0.00 10.000 14.920 0.0300 0.00296	

MODEL COMPONENT: WING-Wing-		**************************************
GENERAL DESCRIPTION: Configuration 3 per No Swell	Lines VL70-(% ();	39:5
NOTE. Same as M103, except ouff, airfoil and inc	idence angle.	
		<del></del>
Mode: Scale = .010		
TEST NO.	DWG. NO. VL7	0-0001394
DIMENSIONS:	FULL-SCALE	MODEL SCALE
TOTAL DATA  Area (Theo.) Ft2  Planform Span (Theo In. Aspect Ratio Rate of Taper Taper Ratio Dihedral Angle, degrees (@ TE of Elevon) Incidence Angle, degrees Aerodynamic Twist, degrees Sweep Back Angles, degrees Leading Edge Trailing Edge 0.25 Element Line Chords: Root (Theo) B.P.O.O. Tip, (Theo) B.P. MAC Fus. Sta. of .25 MAC W.P. of .25 MAC B.L. of .25 MAC EXPOSED DATA  Area (Theo) Ft2 Span, (Theo) In. BP108 Aspect Ratio Taper Ratio Chords Root BP108 Tip 1.00 b Z MAC B.L. of .25 MAC B.L. of .25 MAC B.L. of .25 MAC W.P. of .25 MAC Airfoil Section (Rockwell Mod NASA) XXXX-64 Root b Z Tip b =	2690.00 936.68 2.265 1.177 0.200 3.500 0.500 +3.000 -10.24 35.209 689.24 137.85 474.81 1136.89 299.20 182.13 1752.29 720.68 2.058 0.2451 562.40 137.85 393.03 1185.31 300.20 251.76	0.2696 9.3468 2.265 1.177 0.200 3.500 43.000 45.000 -10.22 35.209 6.8924 1.3785 4.7481 11.3489 2.9920 1.8213 0.17523 7.2068 2.058 0.2451 5.6240 1.3785 3.9303 11.8531 3.0020 2.5176
Tip $\frac{b}{2}$ =  Data for (1) of (2) Sides		
Leading Edge Cuff Planform Area Ft <sup>2</sup> Leading Edge Intersects Fus M. L. 8 Sta Leading Edge Intersects Wing 8 Sta	118.333 500 1083.4	0-01183 5-00 10-834

Model Component: Wing (W111)—new lightweight orbiter			
General Description: Basic configuration 3A wing			
Note: Same as W103 except cuff, airfoil, and ang	le of incidence. M	odei scale = 0.015	
Test No Drawing	No. VL70-000139	В	
Dimensions:	Full-Scale	Model Scale	
Total Data		0 (0135	
Planform area (theo) - ft <sup>2</sup>	2690.0	0.60525	
Span (theo) ~ in.	936.68	14.05020	
Aspect ratio	2. 265	2.265	
Rate of taper	1.177	$\frac{1,177}{2}$	
Taper ratio	0.200	0.200	
Dihedral angle, ~ deg	3.500	3.500	
Incidence angle, ~ deg	0.500	0.500	
Aerodynamic twist, - deg	+3.000	+3.000	
Sweepback angles, ~ deg			
Leading edge	45.000	45.000	
Trailing edge	-10. 24	-10.24	
0.25 clement line	35, 209	35.209	
Chords - in.			
Root (theo) at BP 0.0	689, 24	10.33860	
Tip (theo) at BP 468, 341	137.85	2.05775	
MAC	474.81	7.12215	
Fus sta of 0.25 MAC	1136.89	17.65335	
WF of 0, 25 MAC	275.70	4.435	
BL of 0, 25 MAC	182. 13	2.70195	
Exposed Data			
Area (theo) - ft <sup>2</sup>	1752. 29	0.39426	
Span (theo) - in. (BP 108,0 to 468,341)	720.68	10.81020	
Aspect rutio	2.058	2.058	
Taper ratio	0,2451	0.2451	
Chords - in.			
Root at BP 108.0	562, 10	8.4360	
Tip at 1.00 $\frac{b}{2}$	137.85	2.06775	
MAC	393.03	5.89945	
Fus sta of 0, 25 MAC	1185.31	17.77965	
WP of 0.25 MAC	296.70	4,451	
BL of 0, 25 MAC	251.76	3.7764	
Airfoil section (Rockwell mod NASA XXXX-64)			
Percent thickness at $\frac{b}{2}$	0.16	0.10	
Percent thickness at $1.0\frac{b}{2}$	0.12	0.12	
Data for 1 of 2 sides			
Leading edge cuff			
Planform area ~ ft <sup>2</sup>	118,333	0.02662	
Leading edge intersects fus ML at sta - in.	500	7.5000	
Loading edge intersects wing at sta - in.	1083. <b>5</b>	16, 2510	

(()

Notes 1. Positive directions of force coefficients, moment coefficients, and angles are Yw indicated by arrows  $C_{n}$ 2. For clarity, origins of wind and stability axes have been displaced from the center of gravity 44

Figure 1. - Axis Systems.

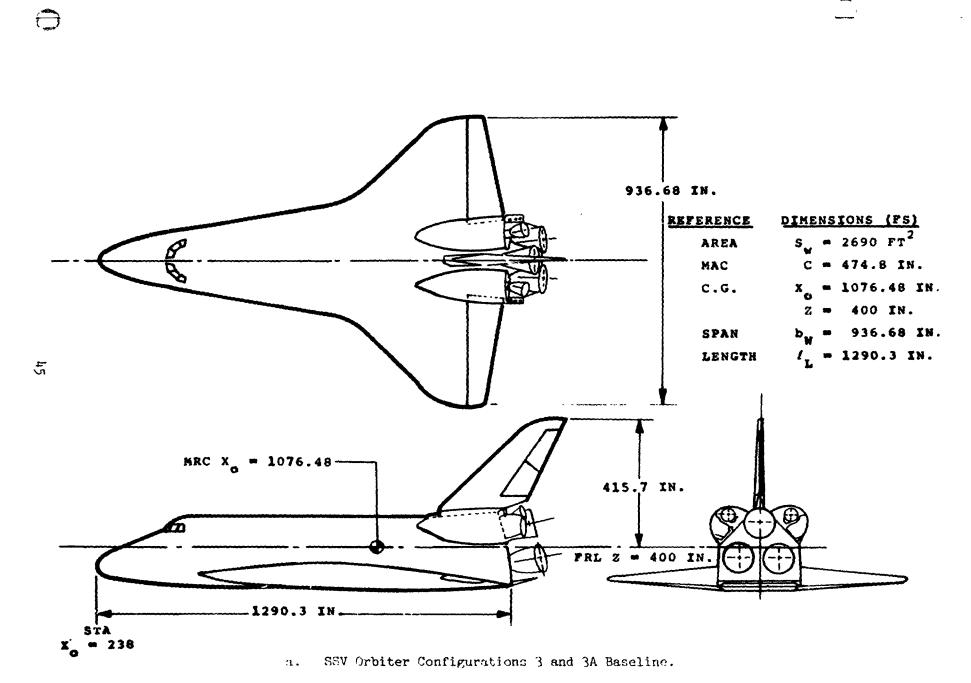
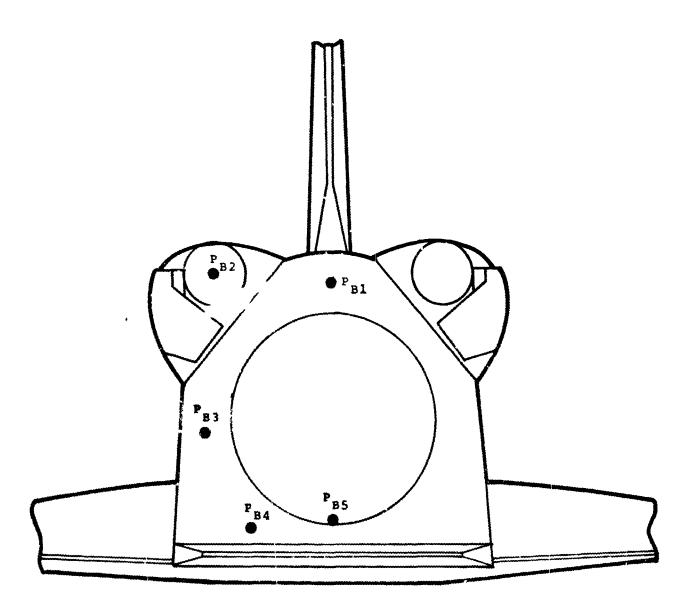


Figure 2. - Model Sketches.

E<sub>22</sub> - ELEVON 45 WING R RUDDER V, - VERTICAL TAIL--N<sub>8</sub> - OMS ENGINE NOZZLE C. . CANOPY OMS POD - P - BODY PLAP

b. SSV Crbiter Configuration 3 and 3A Mass I assent Lature.

Figure 2. - Continued.



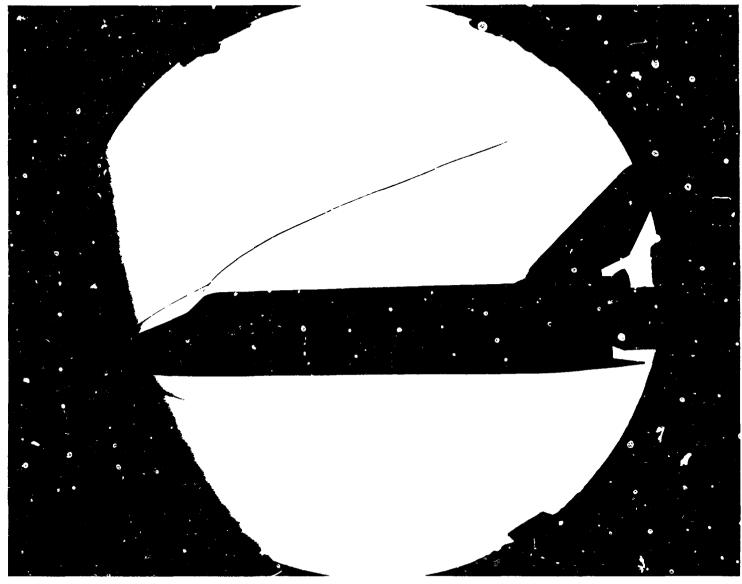
THE STATE OF THE S

;

4

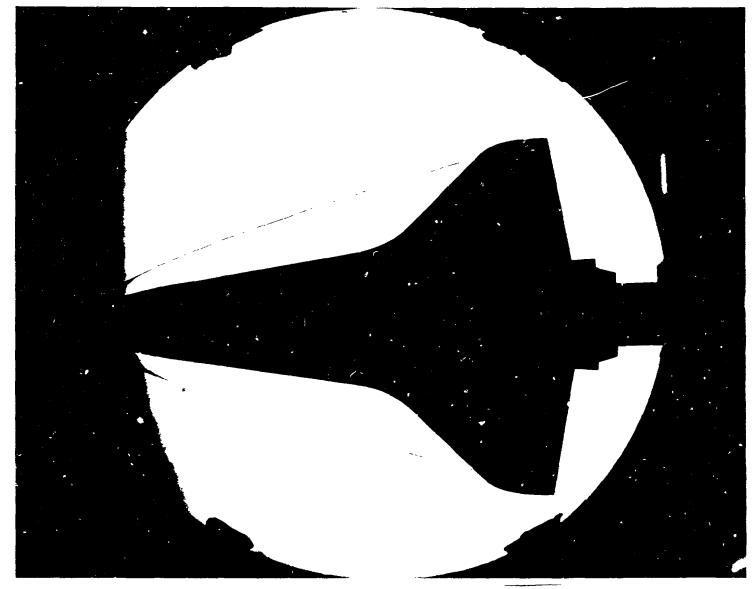
c. Base Pressure Tap Locations.

Figure 2. - Concluded.



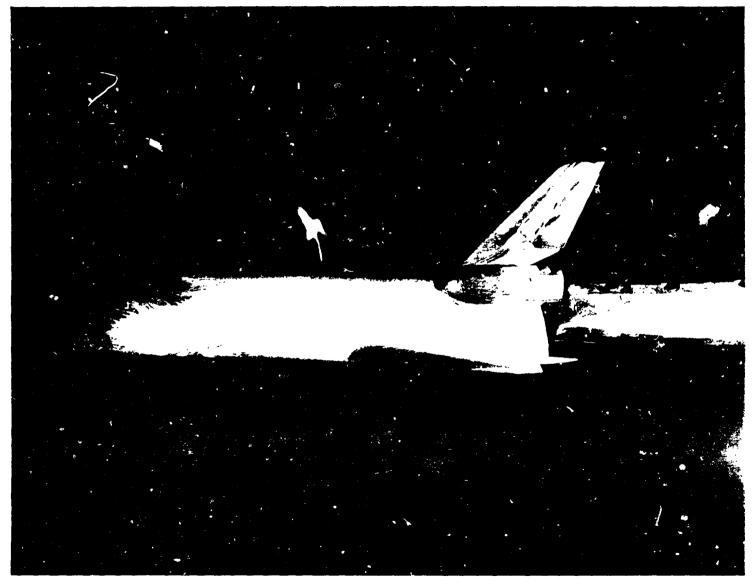
a. Side View Shadowgraph at Mach 5 and 0 Degrees Angle of Attack.

Figure 3. - Model Photographs.



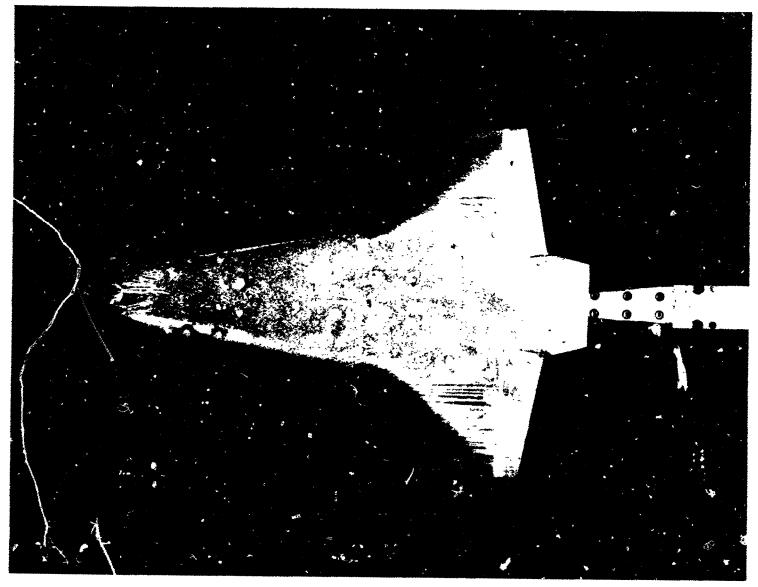
b. Plan View Shadowgraph at Mach 5 and 0 Degrees Angle of Attack.

Figure 3. - Continued.



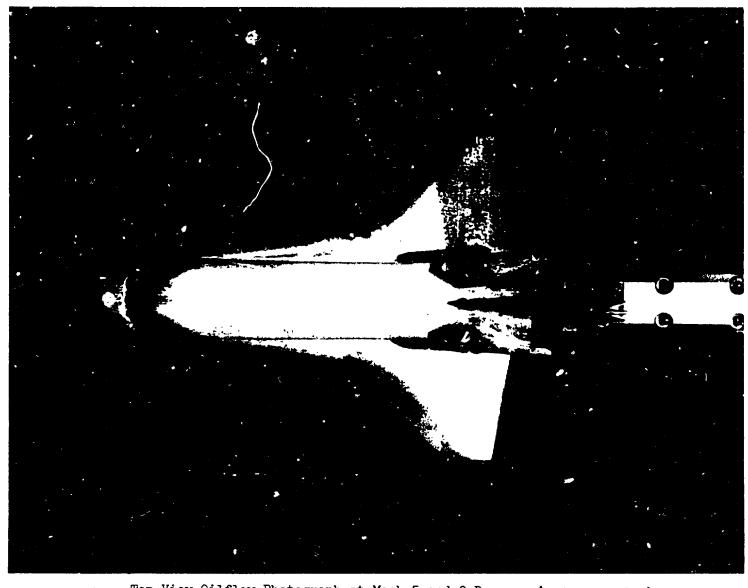
c. Side View Oilflow Photograph at Mach 5 and 0 Degrees Angle of Attack.

Figure 3. - Continued.



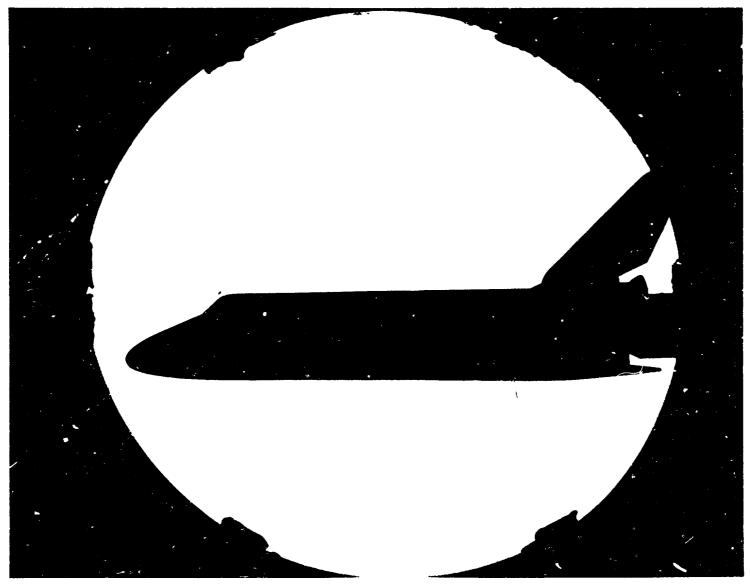
d. Buttom view Uilflow Photograph at Mach 5 and 0 Degrees Angle of Attack.

Figure 3. - Continue:



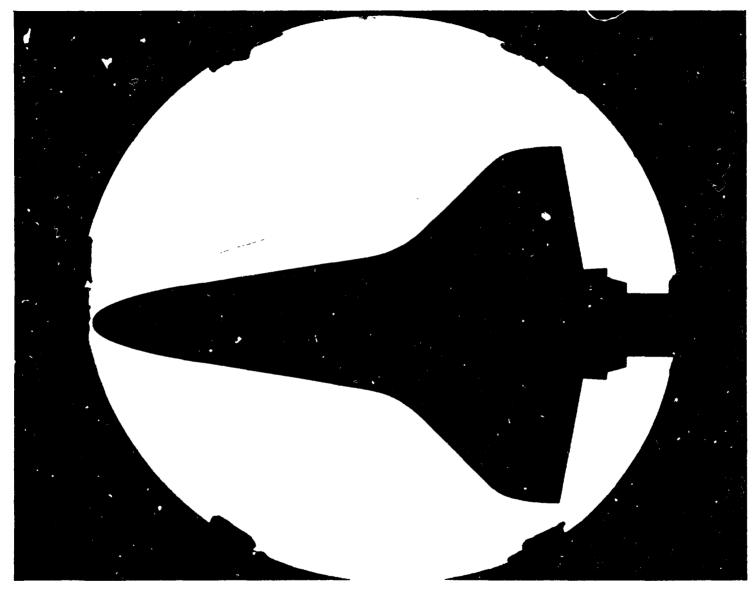
e. Top View Oilflow Photograph at Mach 5 and 0 Degrees Angle or Attack.

Figure 3. - Continued.



f. Side View Shadowgraph at Mach 7 and 0 Degrees Angle of Attack.

Figure 3. - Continued.

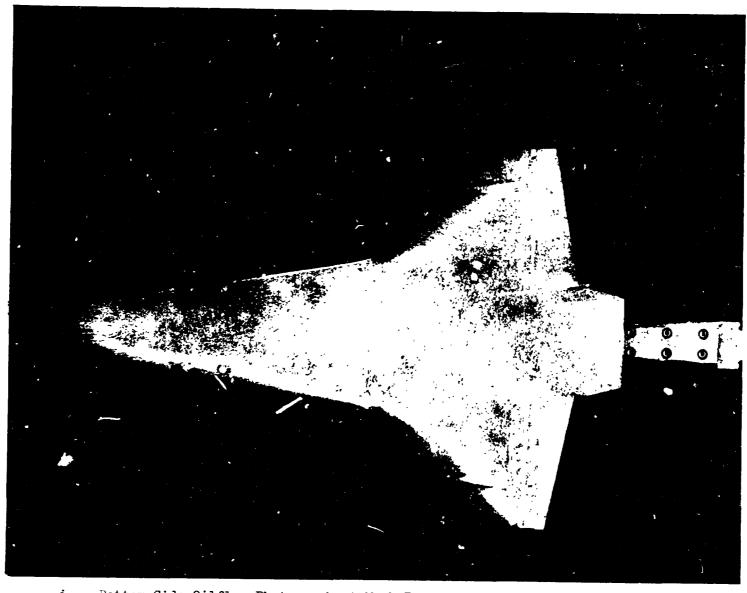


g. Plan View Shadowgraph at Mach 7 and 0 Degrees Angle of Attack.

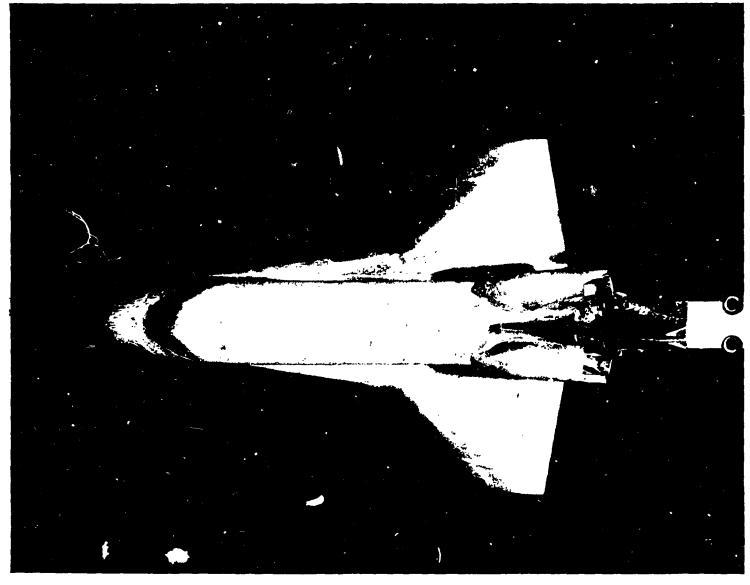
Figure 3. - Continued.

h. Side View Oilflow Photograph at Mach 7 and 0 Degrees Angle of Attack.

Figure 3. - Continued.

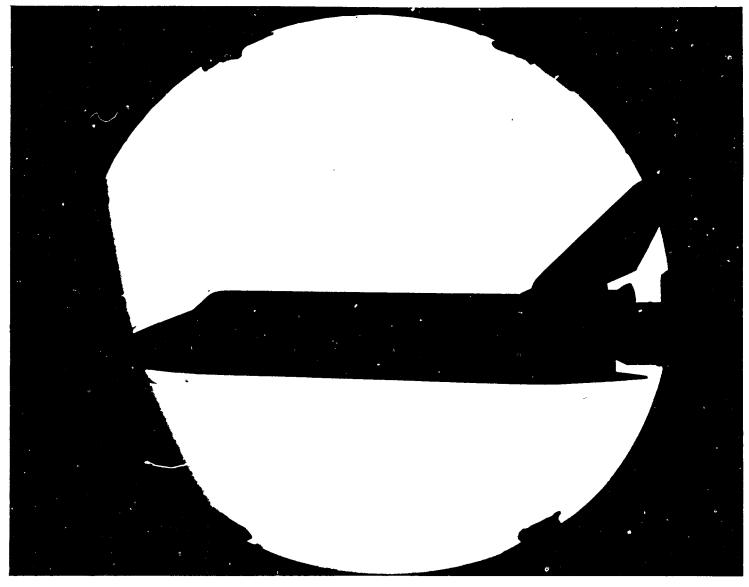


i. Bottom Side Oilflow Photograph at Mach 7 and 0 Degrees Angle of Attack.



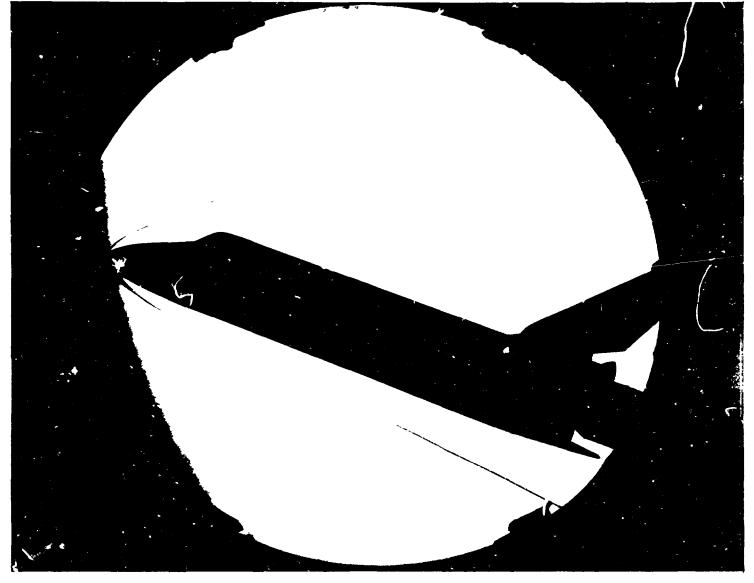
j. Top View Oilflow Photograph at Mach 7 and 0 Degrees Angle of Attack.

Figure 3. - Continued.



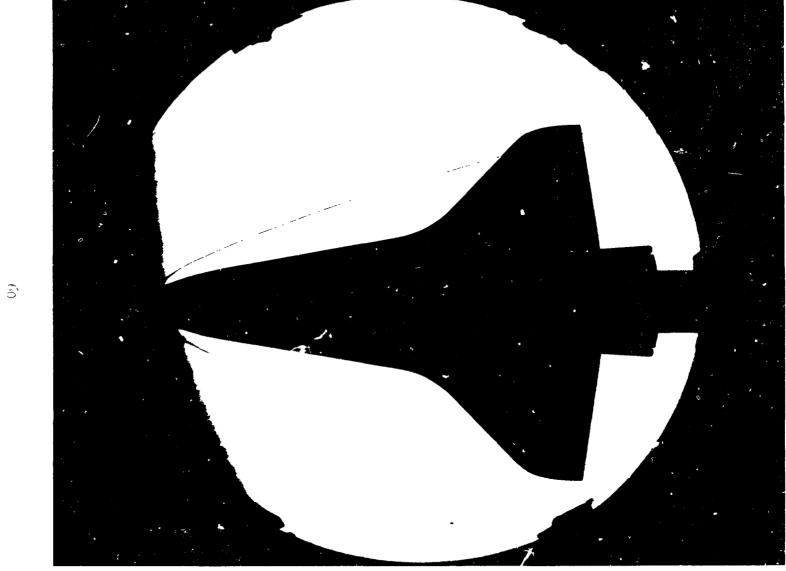
k. Side View Shadowgraph at Mach 10 and 0 Degrees Angle of Attack.

Figure 3. - Continued.



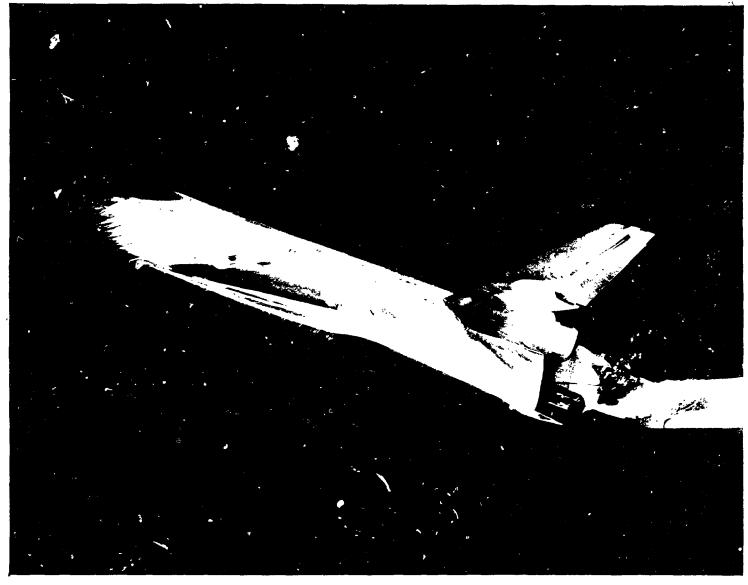
1. Side View Shadowgraph at Mach 5 and 20 Degrees Angle of Attack.

Figure 3. - Continued.



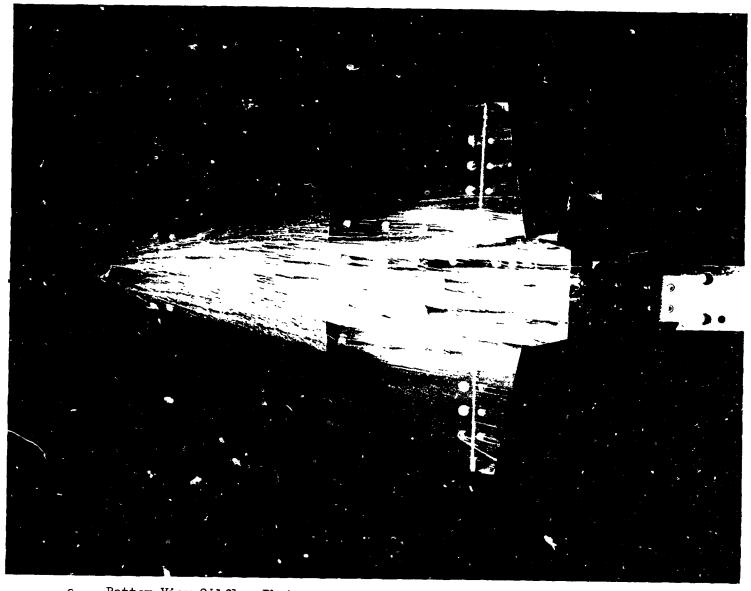
Plan View Shadowgraph at Mach 5 and 20 Degrees Angle of Attack.

Figure 3. - Continued.



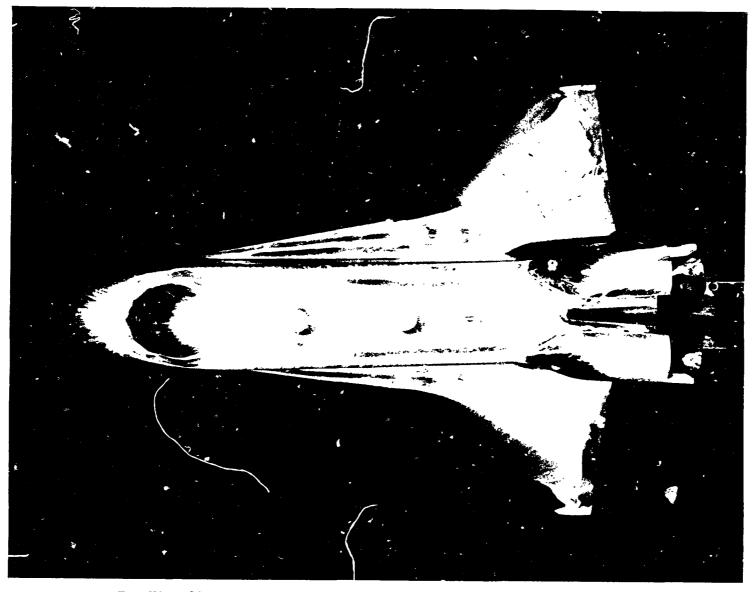
n. Side View Oilflow Photograph at Mach 5 and 20 Degrees Angle of Attack.

Figure 3. - Continued.



c. Bottom View Oilflow Photograph at Mach 5 and 20 Degrees Angle of Attack.

Figure 3. - Continued.

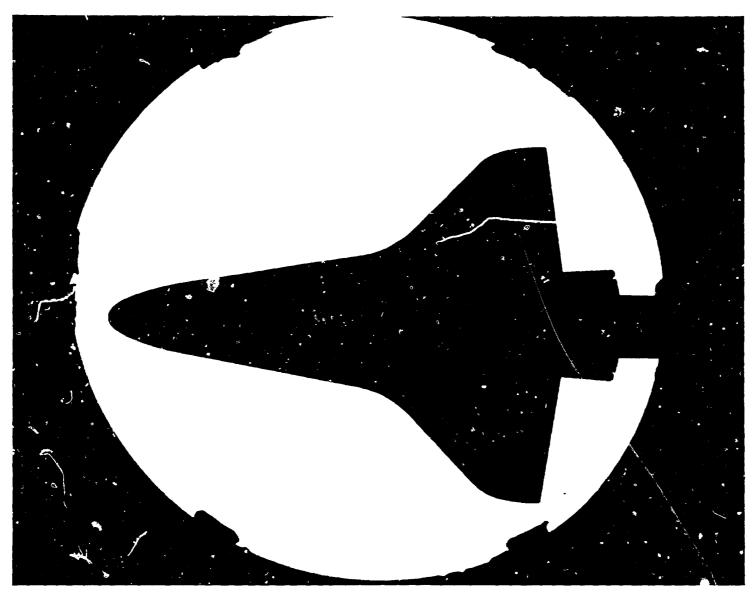


p. Top View Oilflow Photograph at Mach 5 and 20 Degrees Angle of Attack.

Figure 3. - Continued.

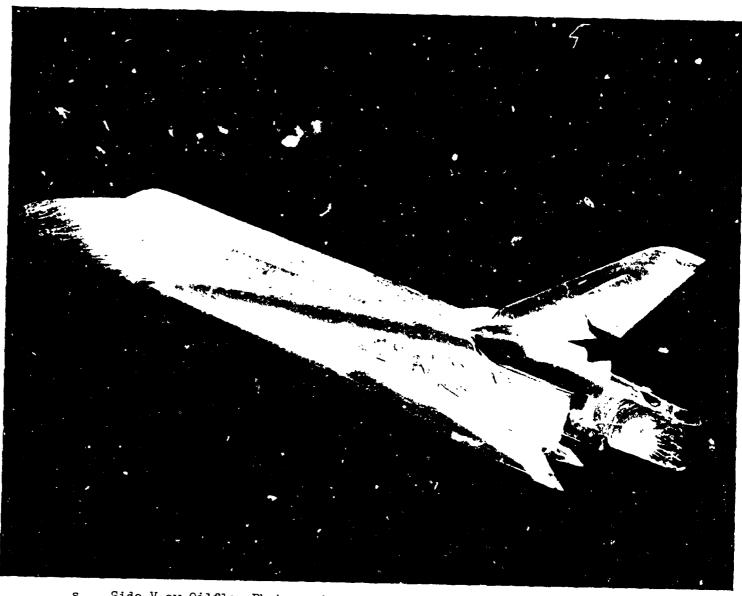
q. Side View Shadowgraph at Mach 7 and 20 Degrees Angle of Attack.

Figure 3. - Continued.



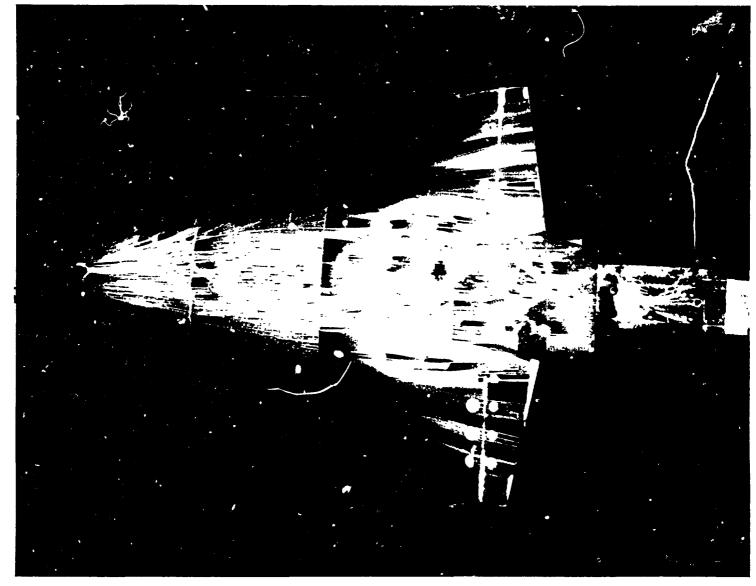
r. Plan View Shadowgraph at Mach 7 and 20 Degrees Angle of Attack.

Figure 3. - Continued.



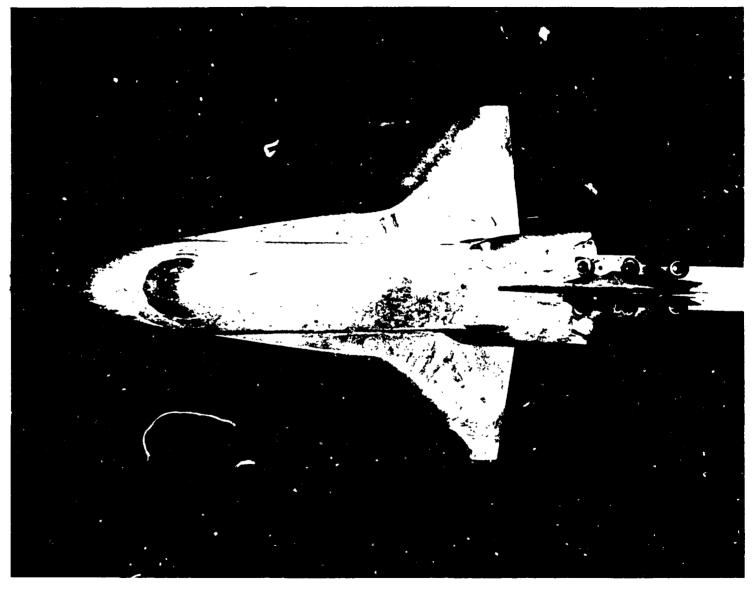
s. Side View Oilflow Photograph at Mach 7 and 20 Degrees Angle of Attack.

Figure 3. - Continued.



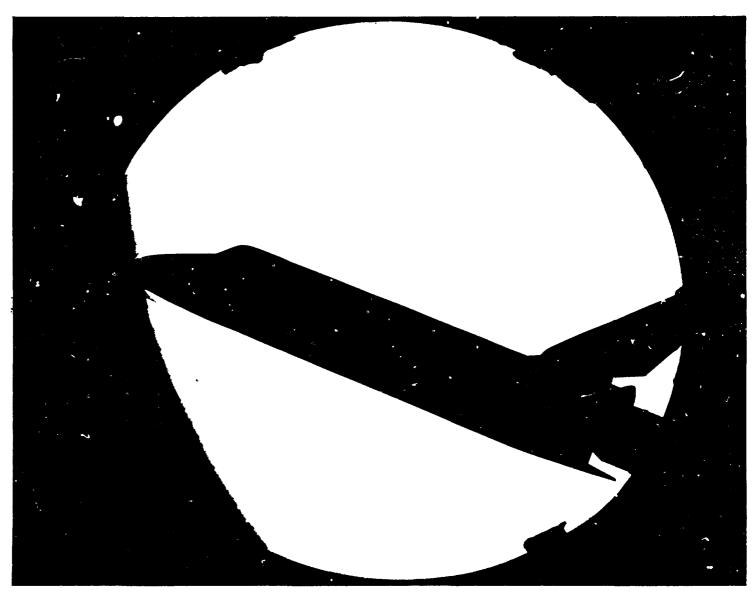
t. Bottom View Oilflow Photograph at Mach 7 and 20 Degrees Angle of Attack.

Figure 3. - Continued.



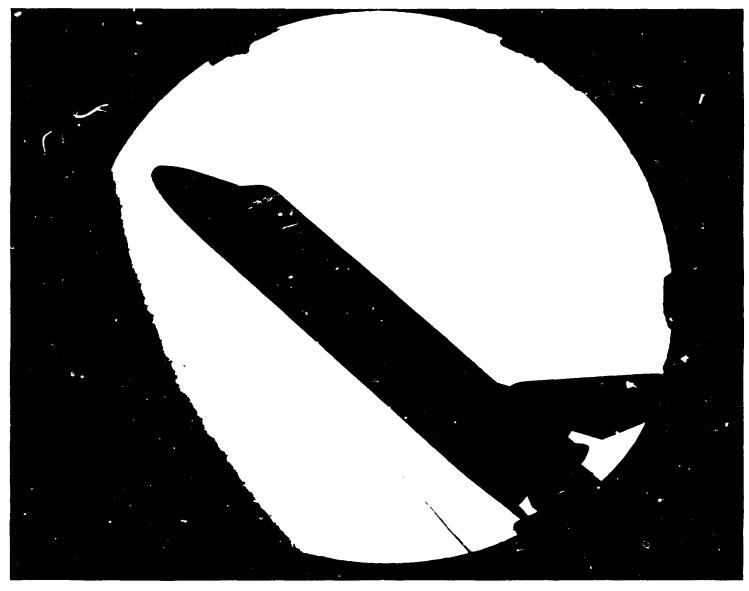
u. Top View Oilflow Photograph at Mach 7 and 20 Degrees Angle of Attack.

Figure 3. - Continued.



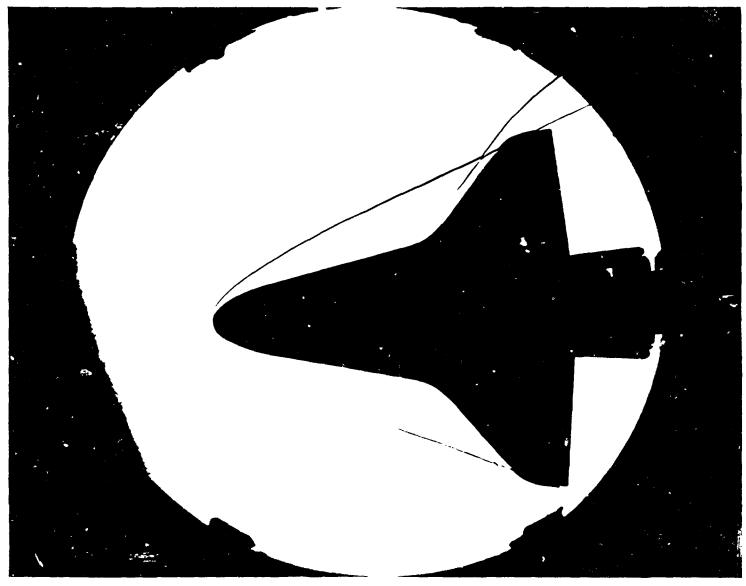
v. Side View Shadowgraph at Mach 10 and 20 Degrees Angle of Attack.

Figure 3. - Continued.



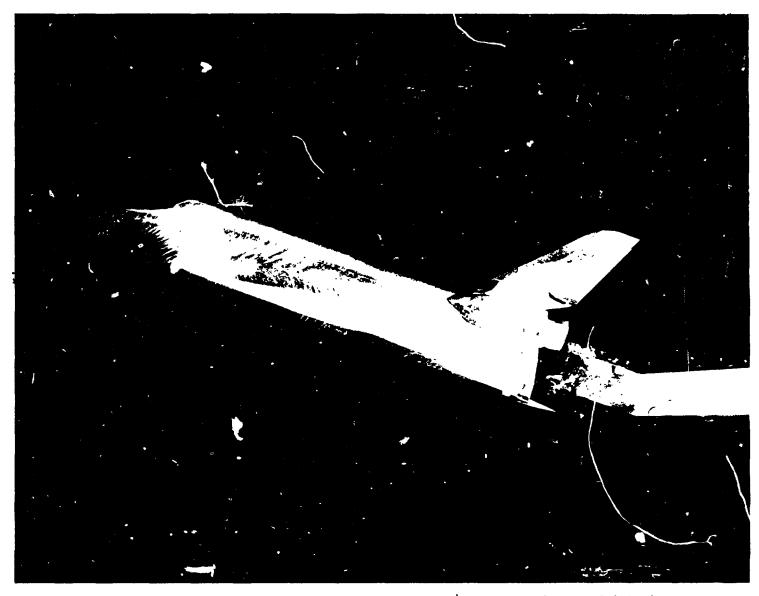
w. Side View Shadowgraph at Mach 5 and 40 Degrees Angle of Attack.

Figure 3. - Continued.



x. Plan View Shadowgraph at Mach 5 and 40 Degrees Angle of Attack.

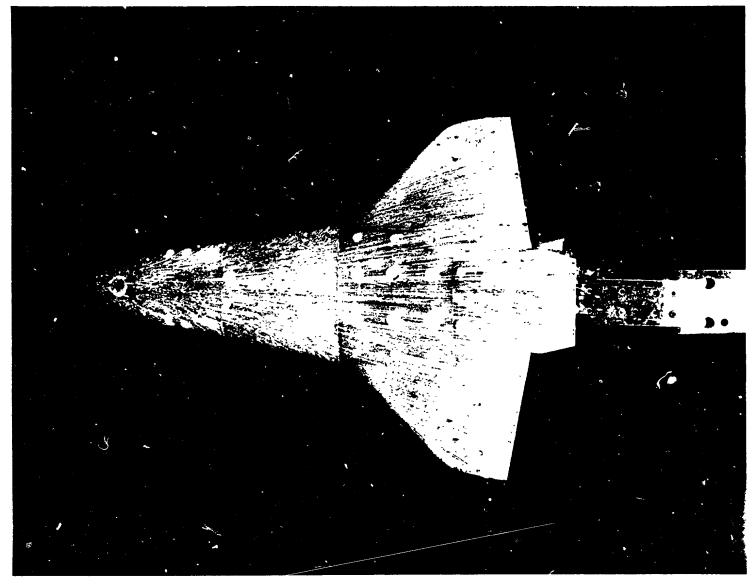
Figure 3. - Continued.



...

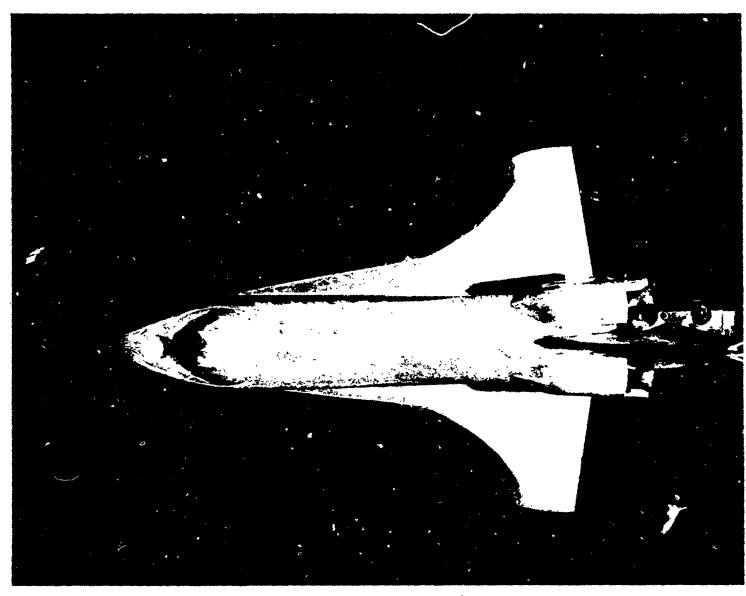
y. Side View Oilflow Photograph at Mach 5 and 40 Degrees Angle of Attack.

Figure 3. - Continued.



z. Bottom View Dilflow Photograph at Mach 5 and 40 Degrees Angle of Attack.

Figure 3. - Continued.



aa. Top View Oilflow Photograph at Mach 5 and 40 Degrees Angle of Attack.

Figure 3. - Continued.

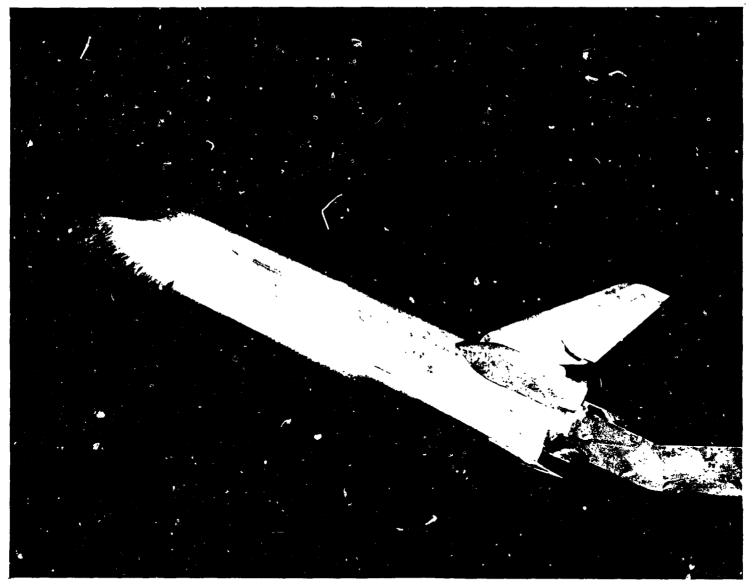


bb. Side View Shadowgraph at Mach 7 and 40 Degrees Angle of Attack.

Figure 3. - Continued.

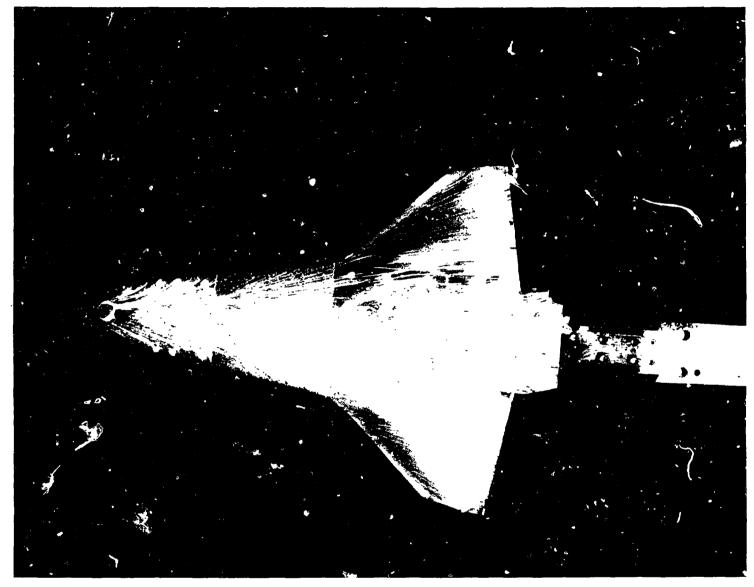
cc. Plan View Shadowgraph at Mach 7 and 40 Degrees Angle of Attack.

Figure 3. - Continued.



dd. Side View Oilflow Photograph at Mach 7 and 40 Degrees Angle of Attack.

Figure 3. - Continued.



ee. Bottom View Oilflow Photograph at Mach 7 and 40 Degrees Angle of Attack.

Figure 3. - Continued.

Top View Oilflow Photograph at Mach 7 and 40 Degrees Angle of Attack.

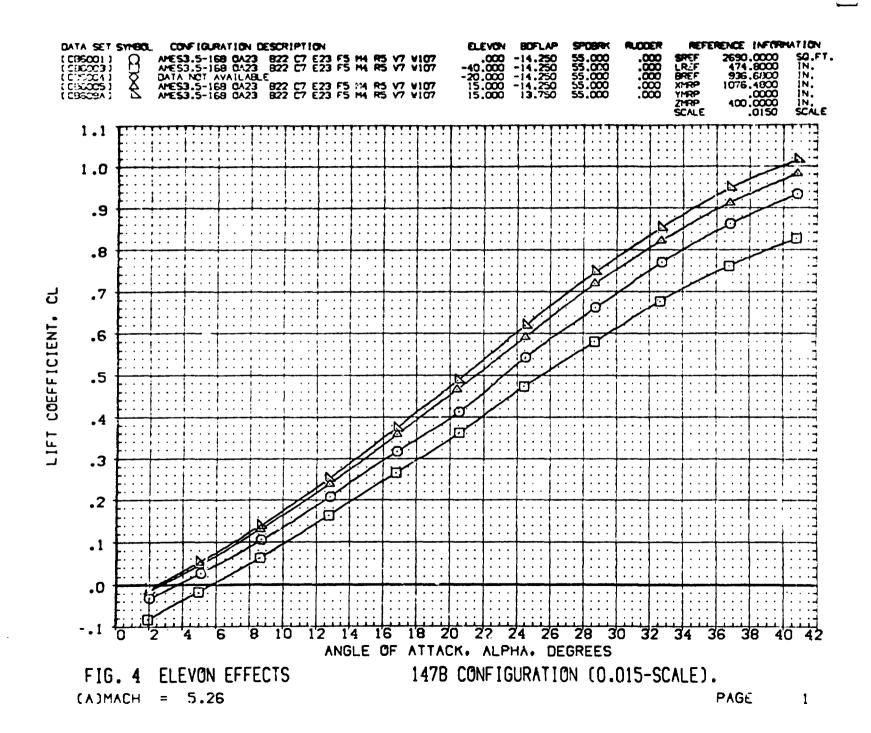
Figure 3. - Continued.

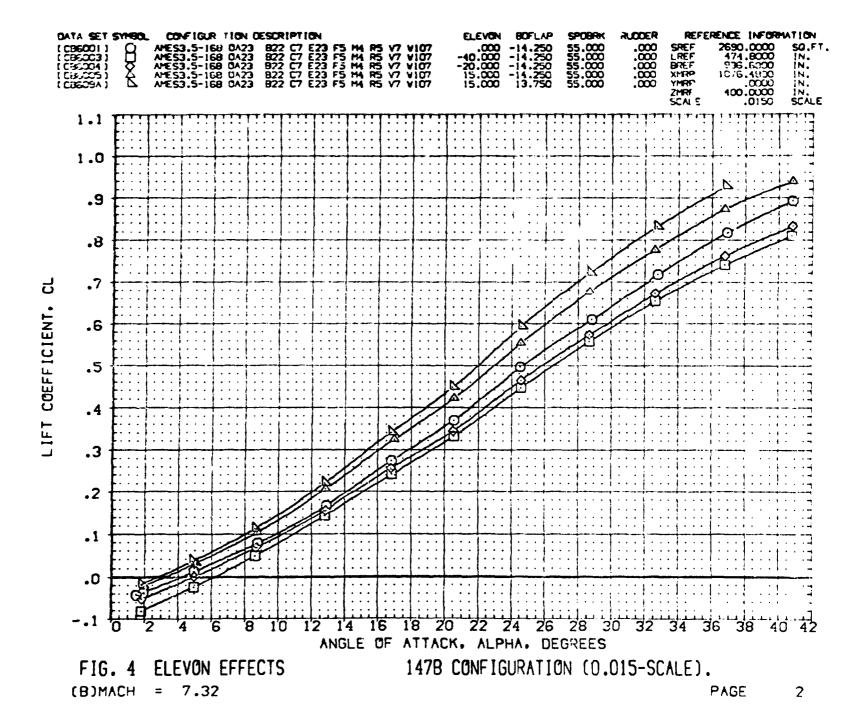
C

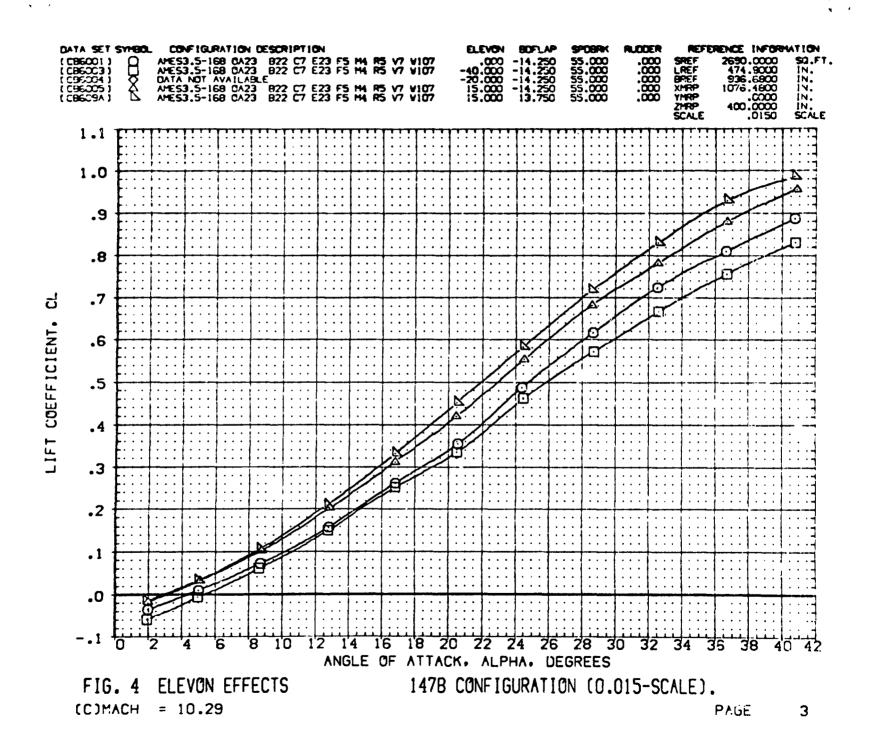
gg. Side View Shadowgraph at lach 10 and 40 Degrees Angle of Attack.

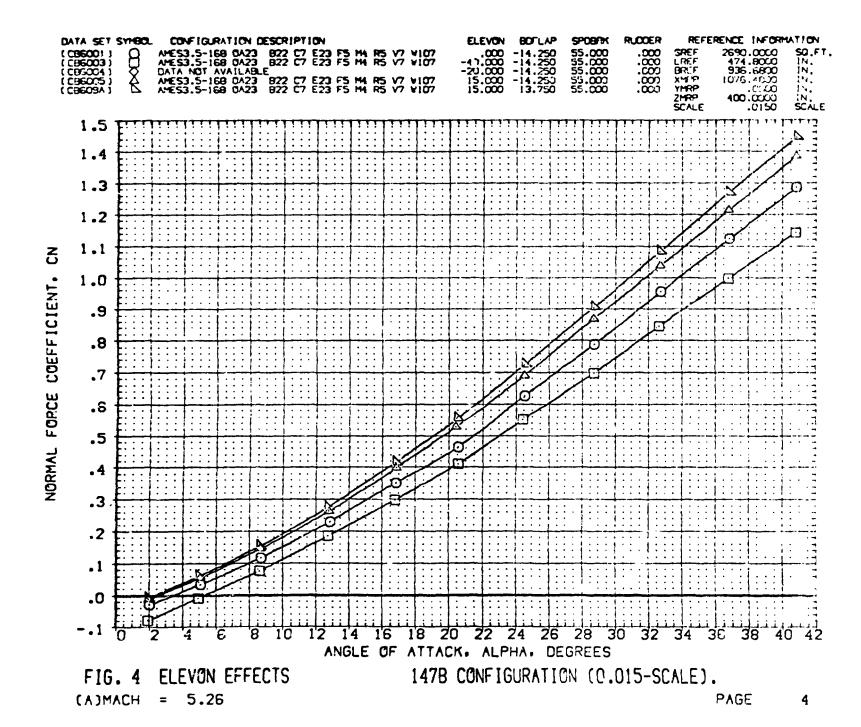
Figure 3. - Concluded.

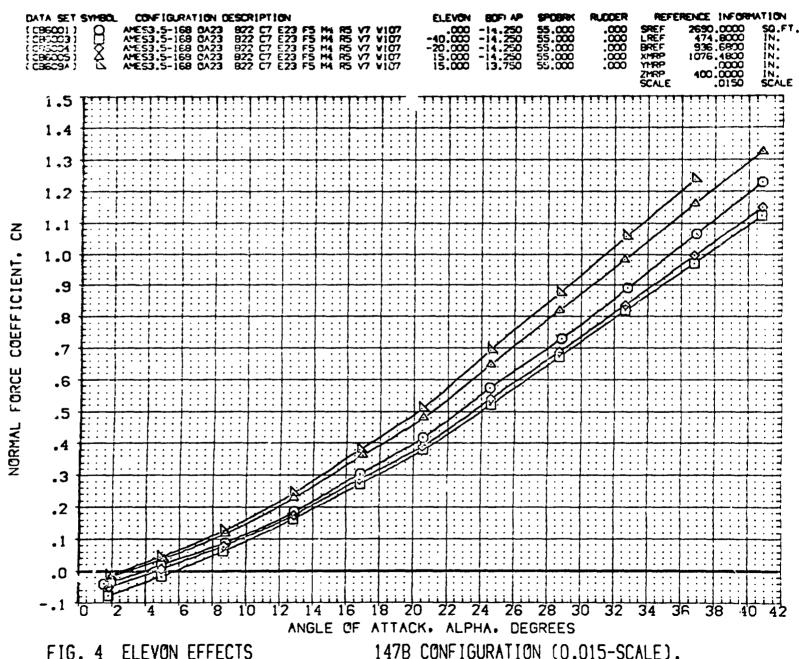
DATA PTOURES





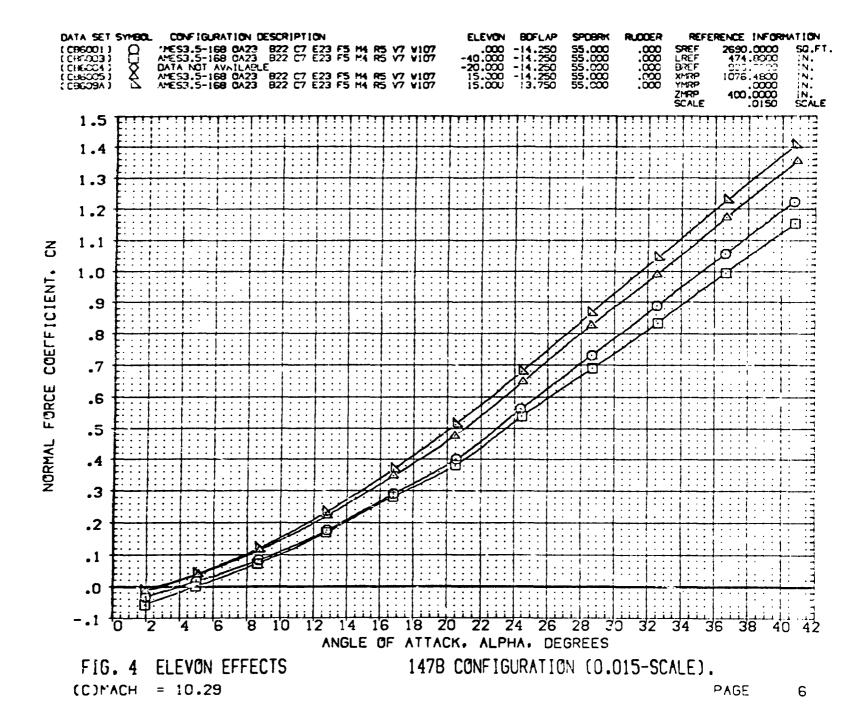


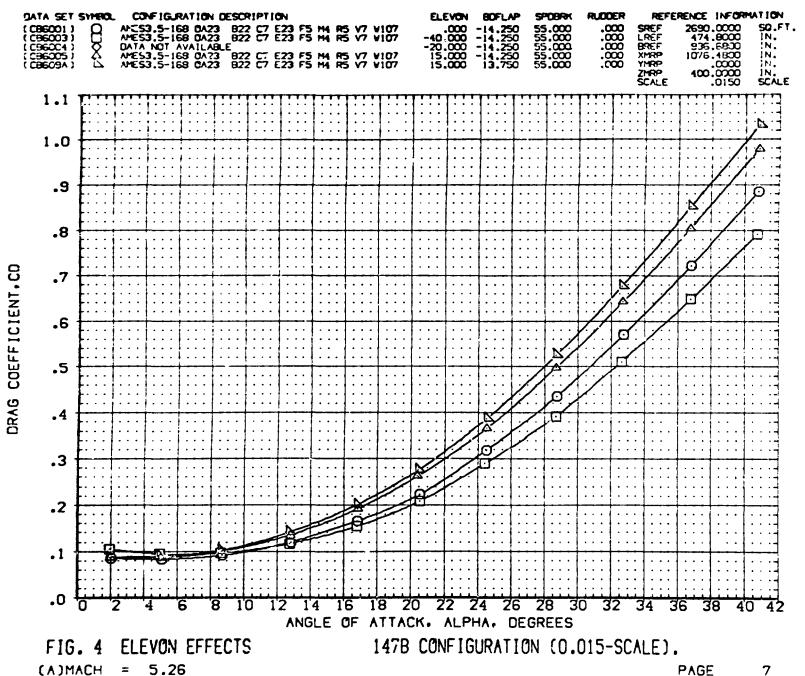




(B)MACH = 7.32

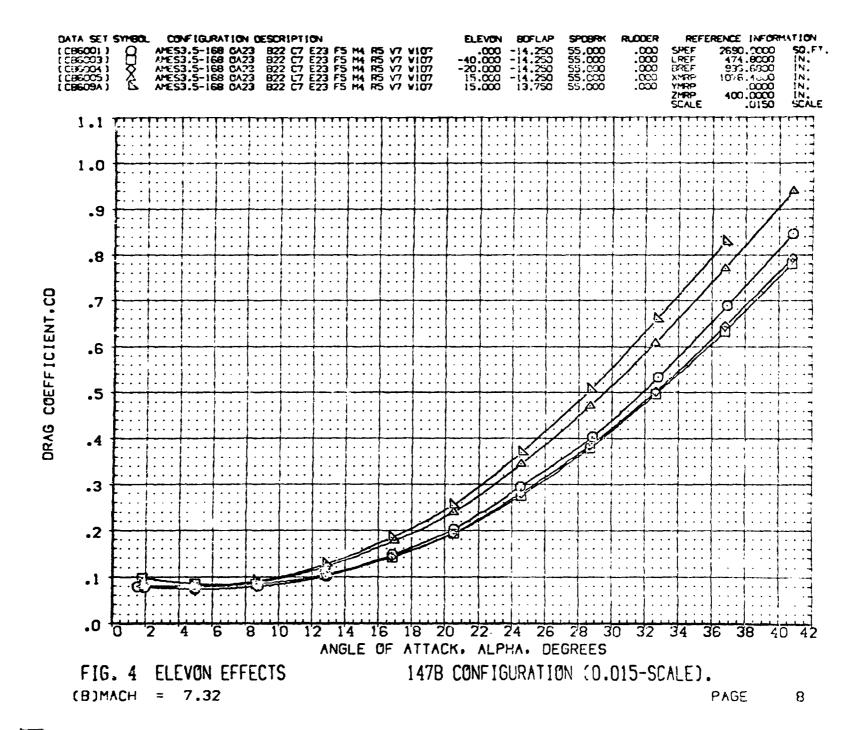
147B CONFIGURATION (0.015-SCALE).

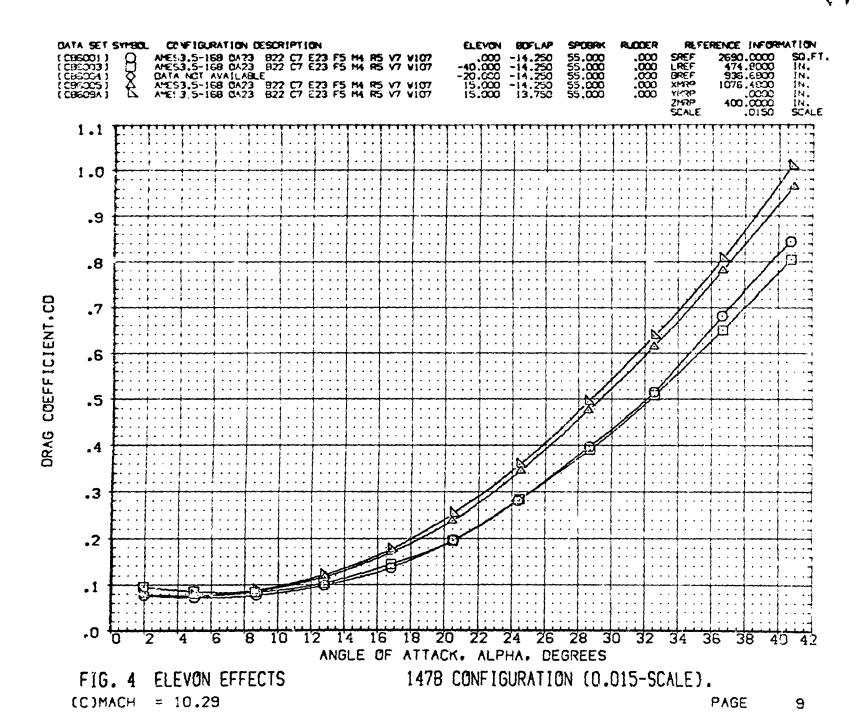


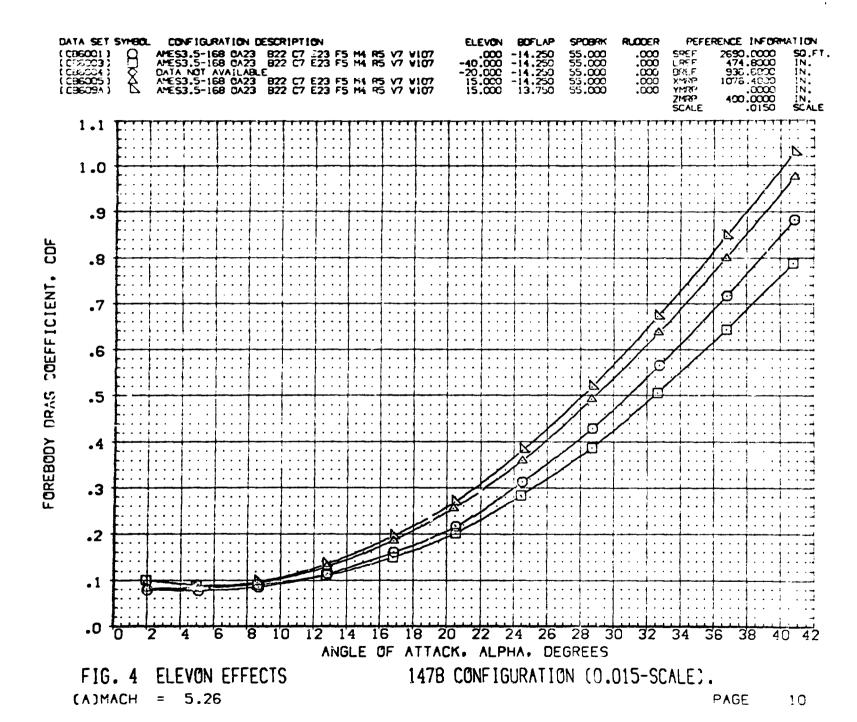


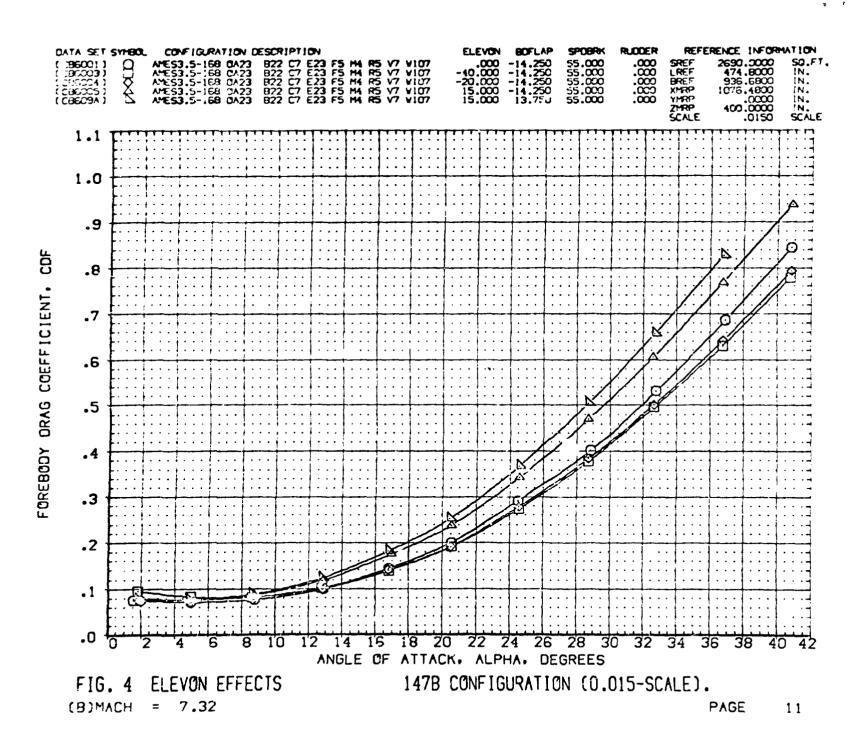
PAGE

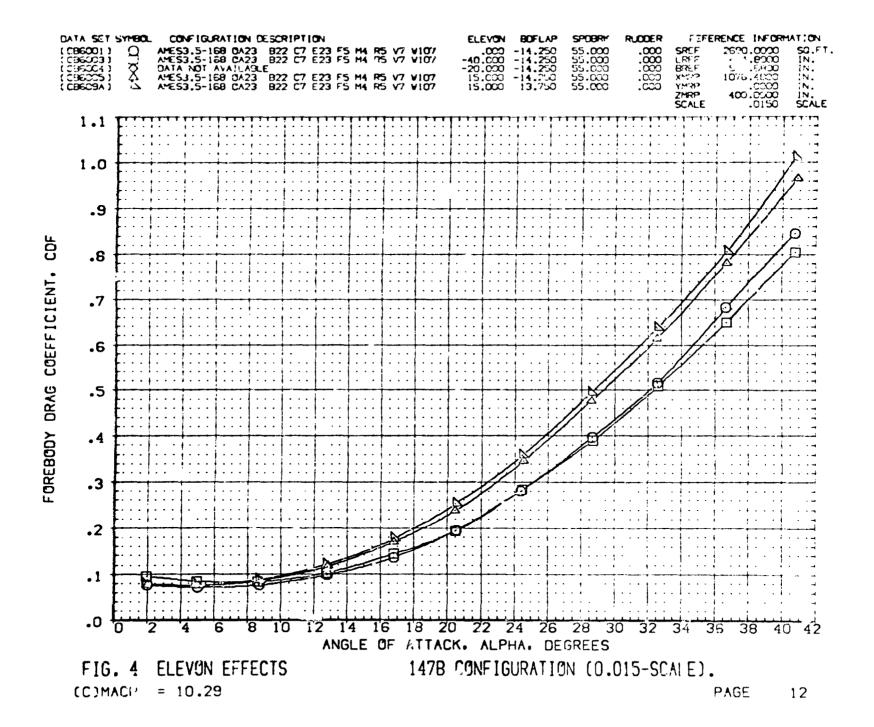
7

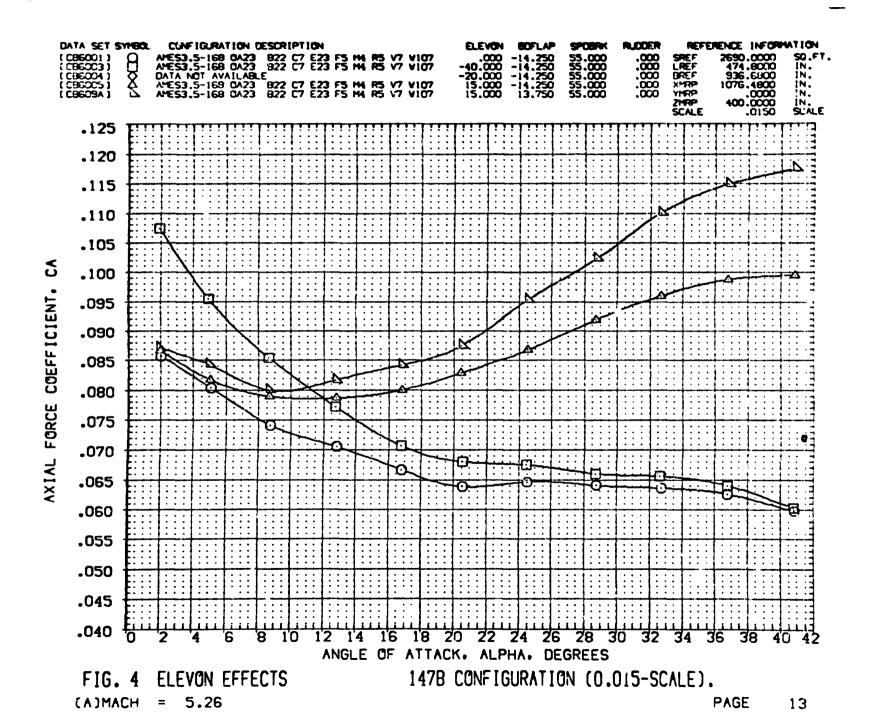


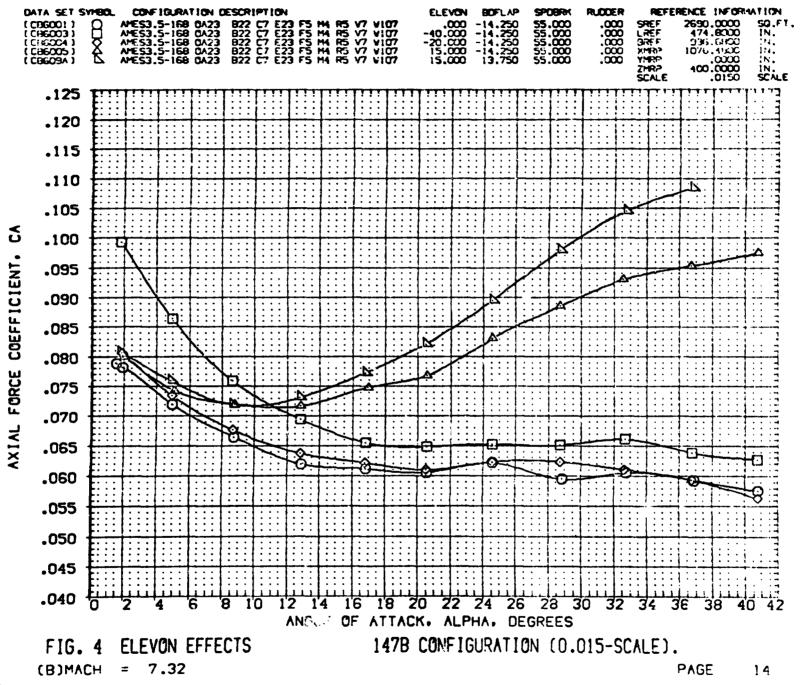




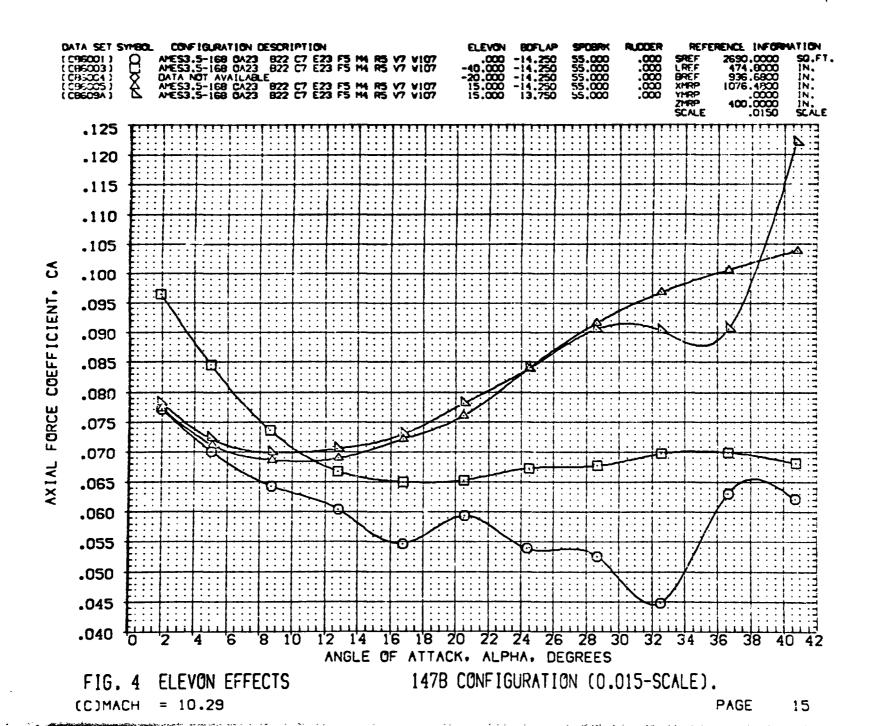


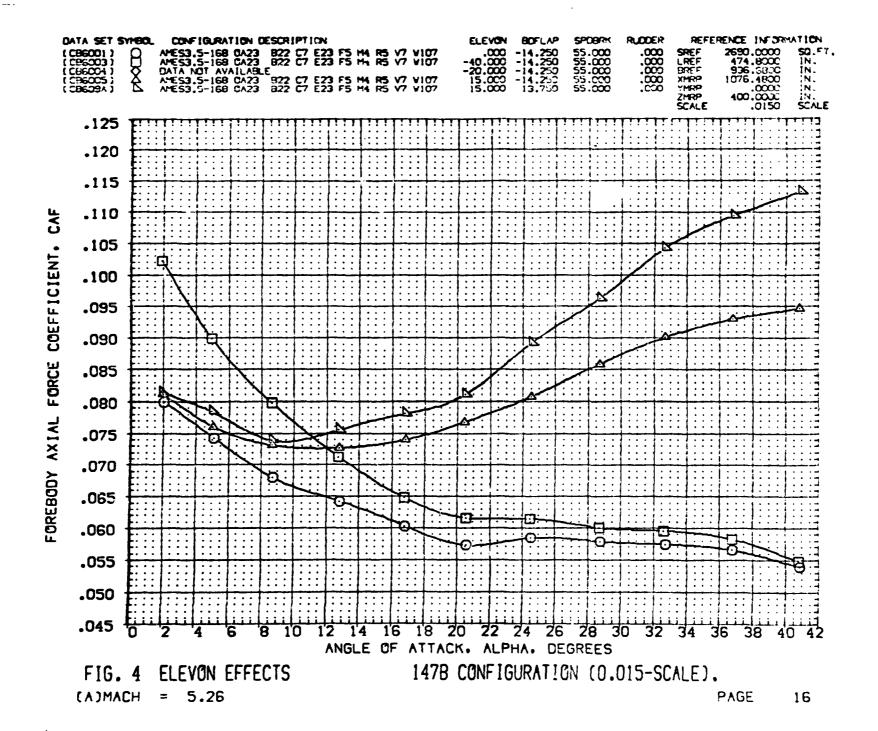


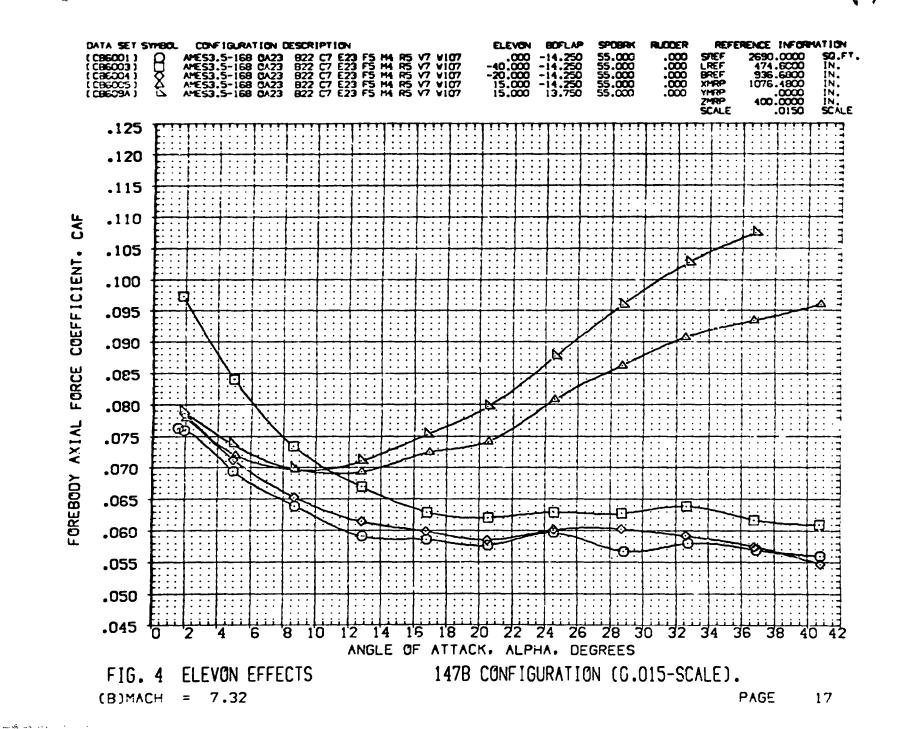


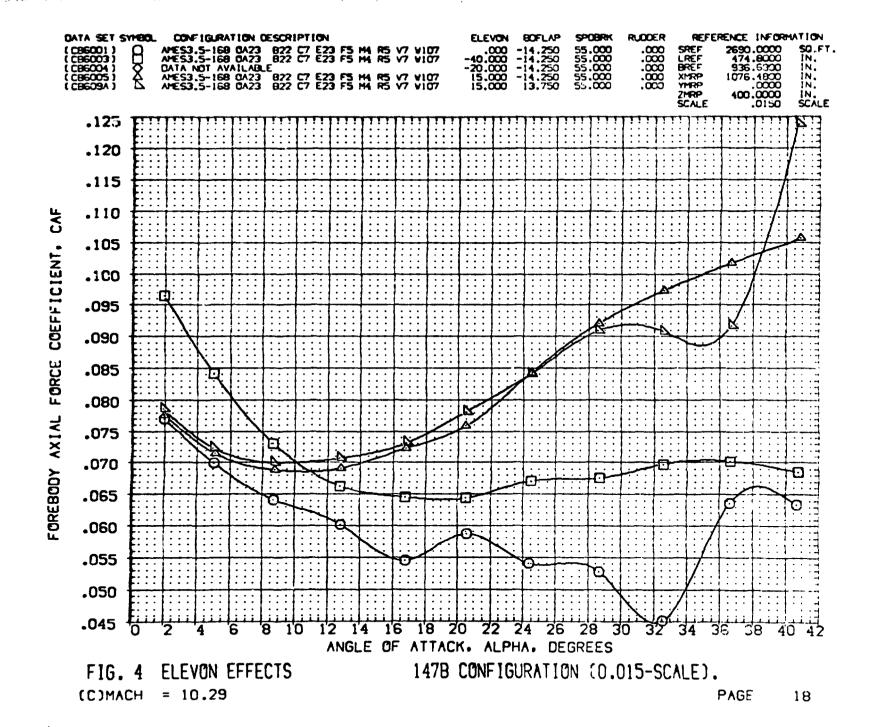


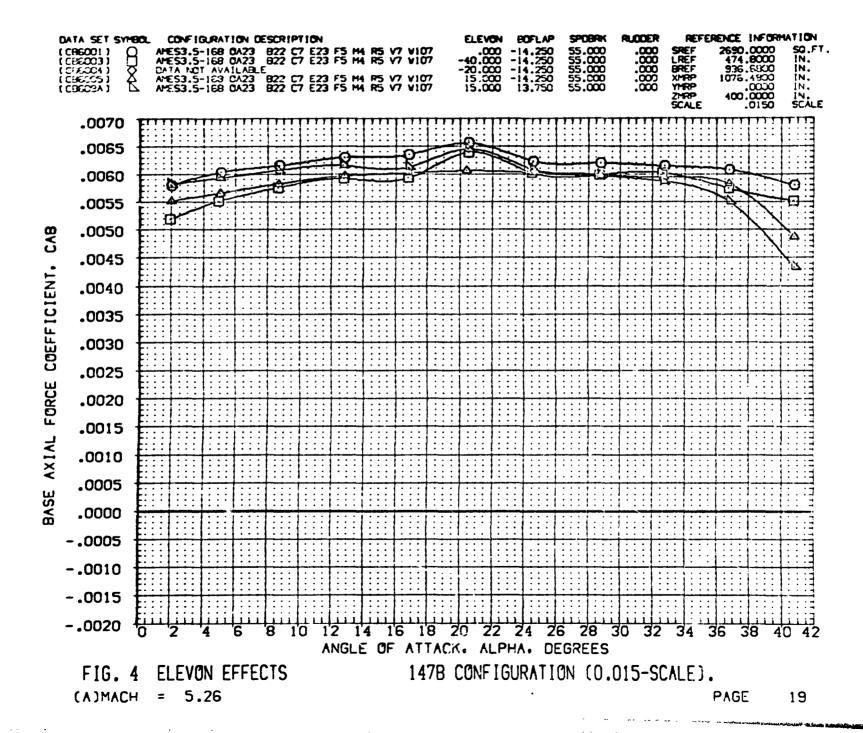
<del>4 -}</del>

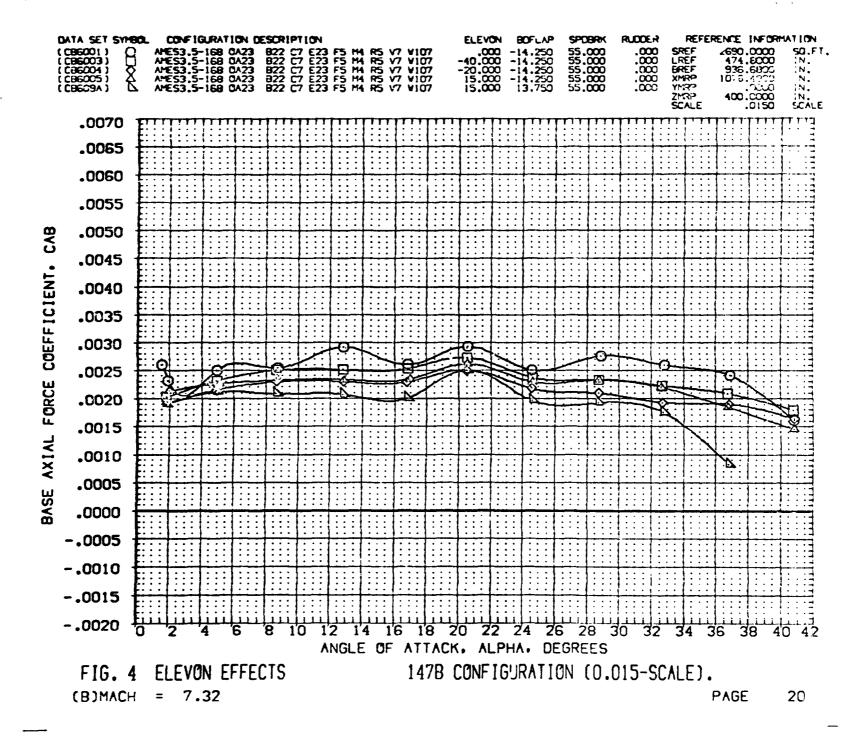




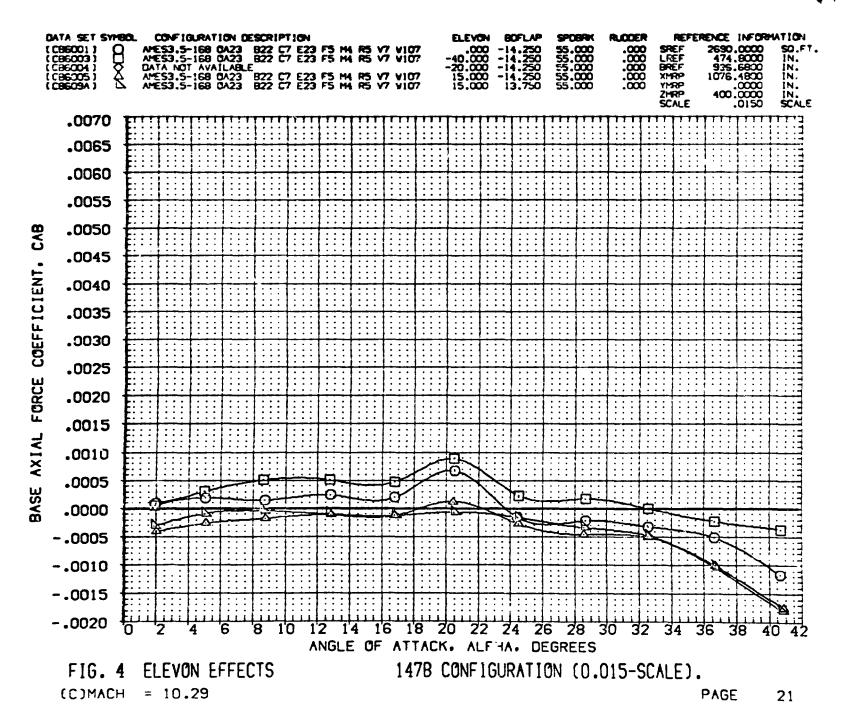


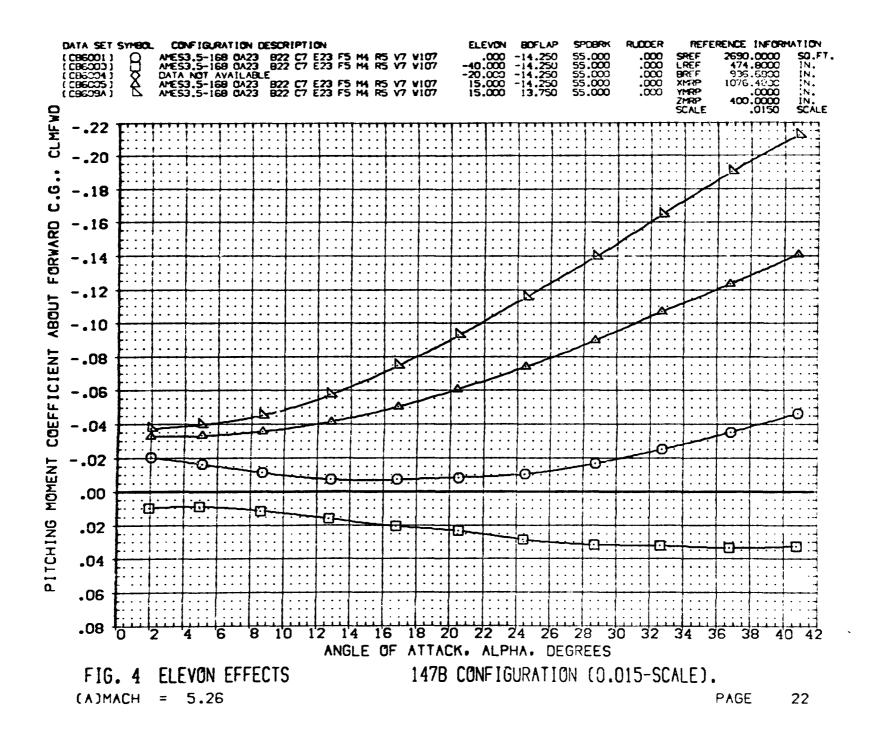


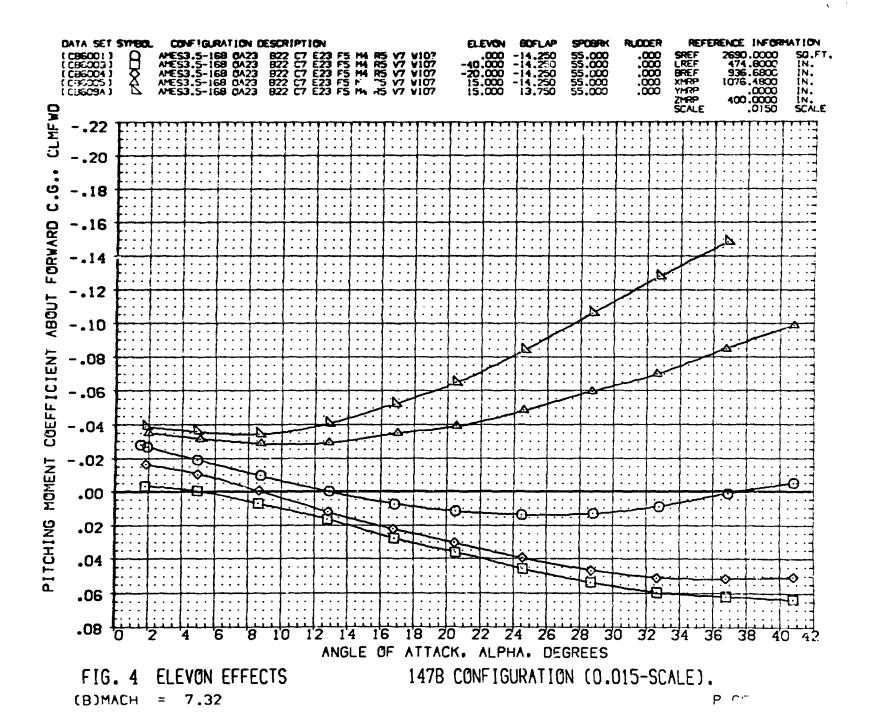


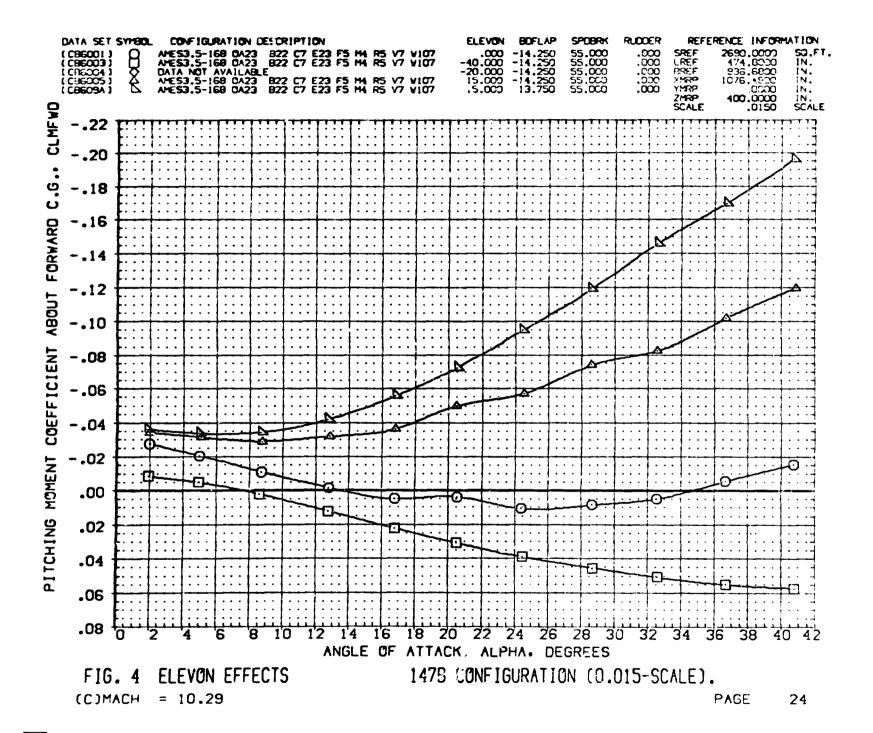


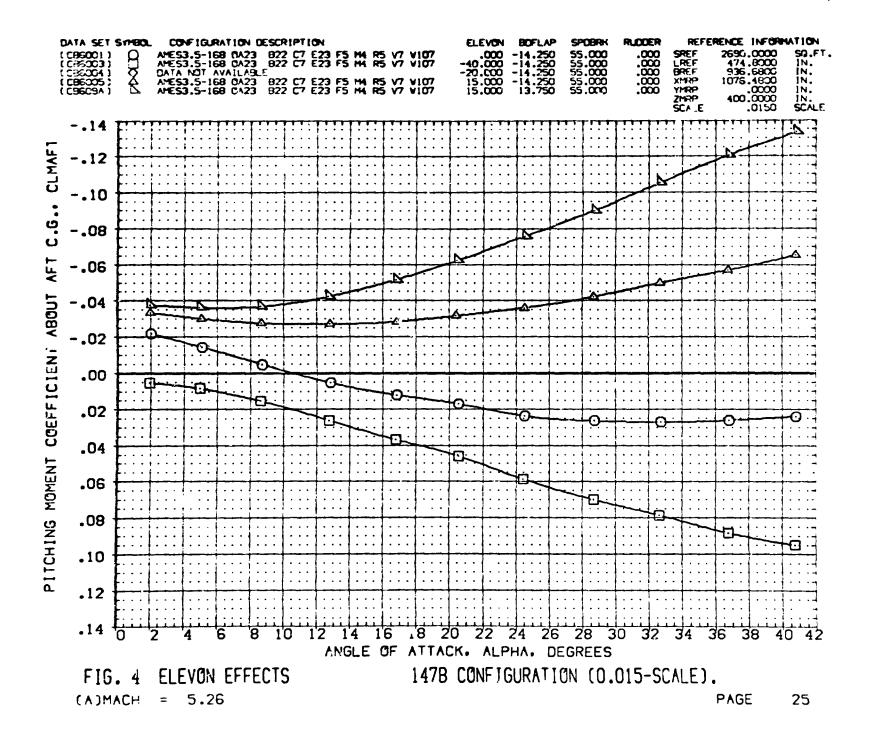
The first the control of the property of four court

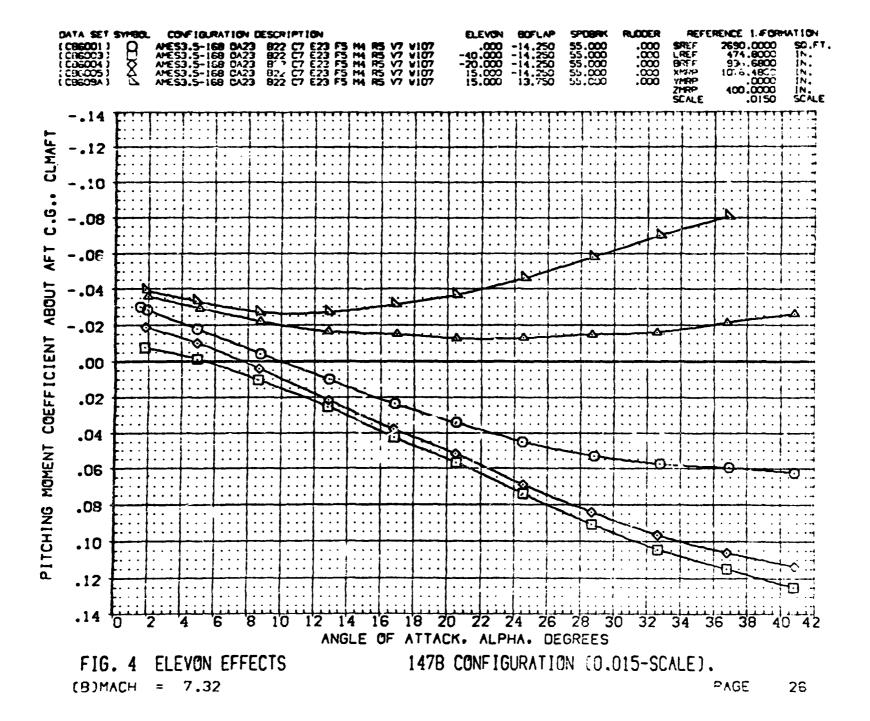


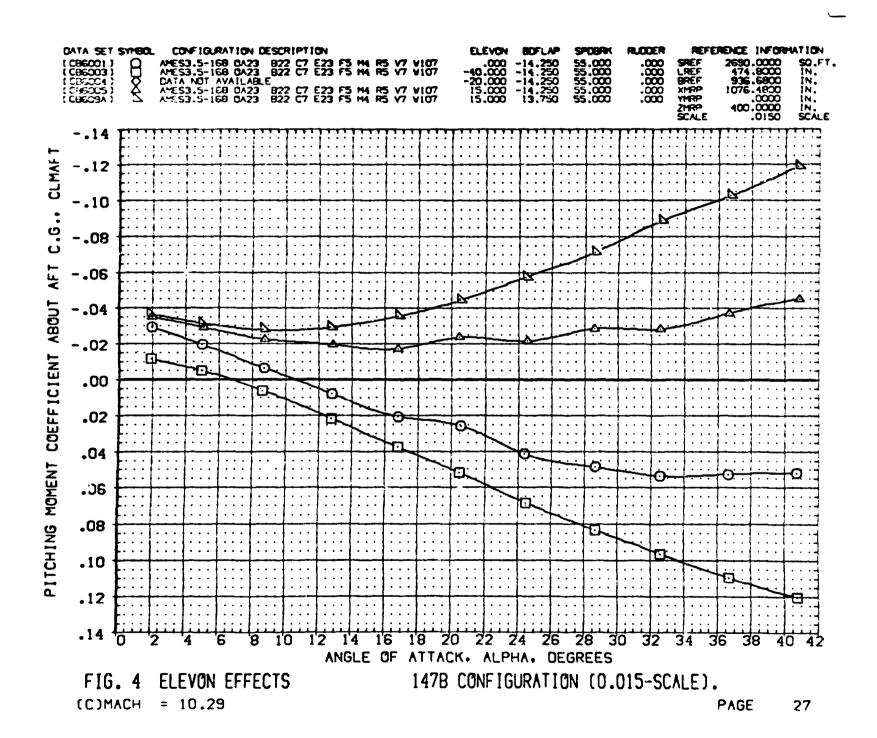


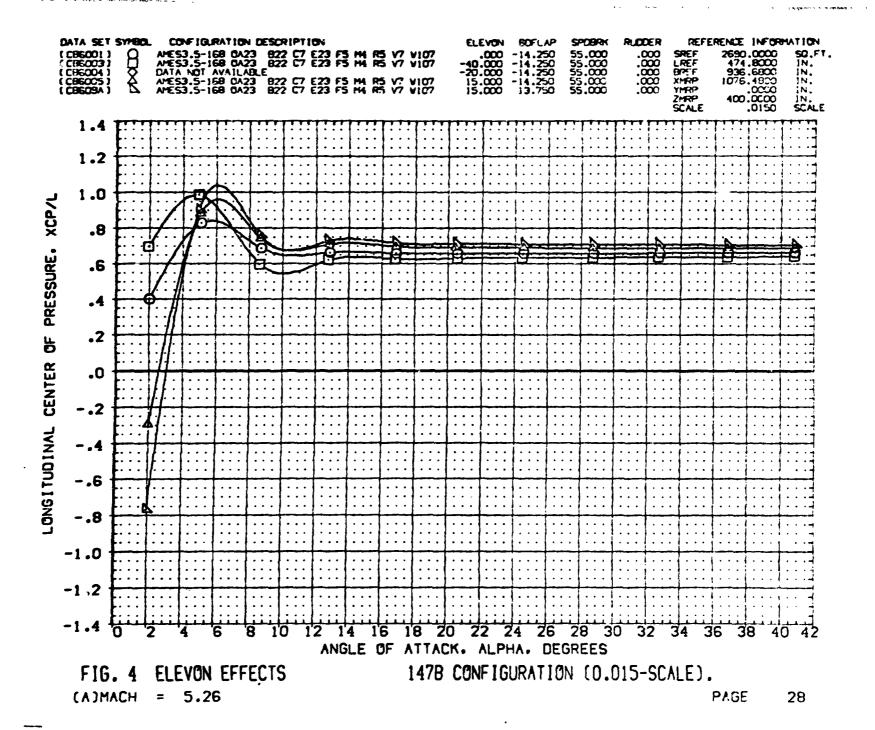


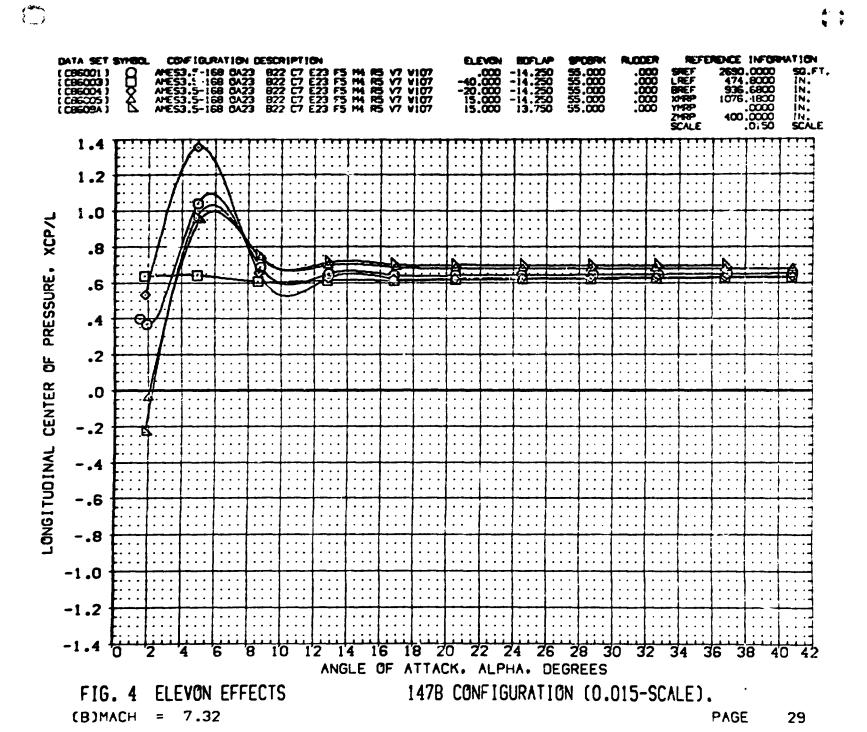


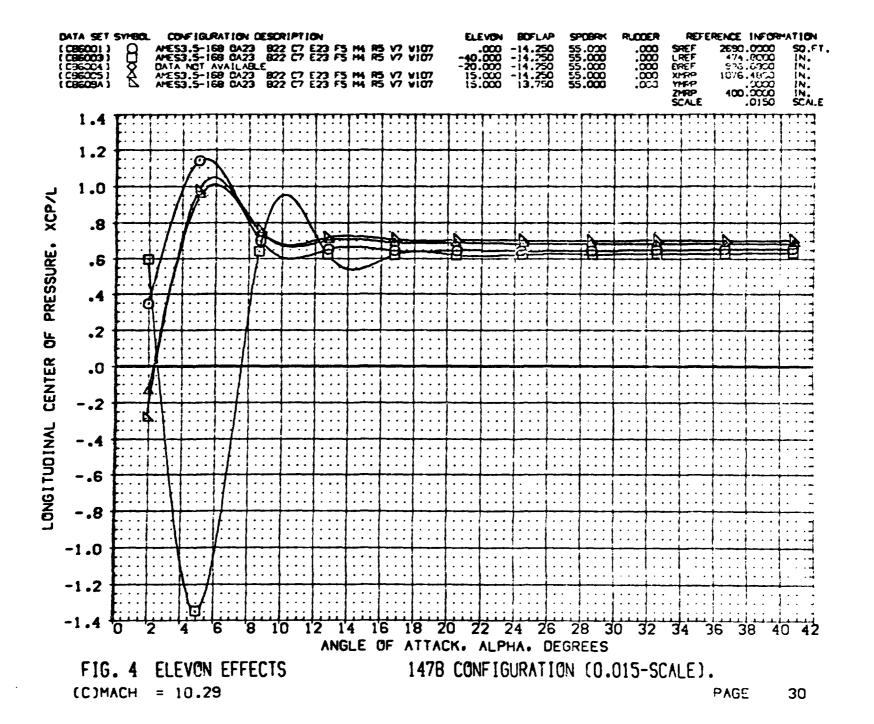




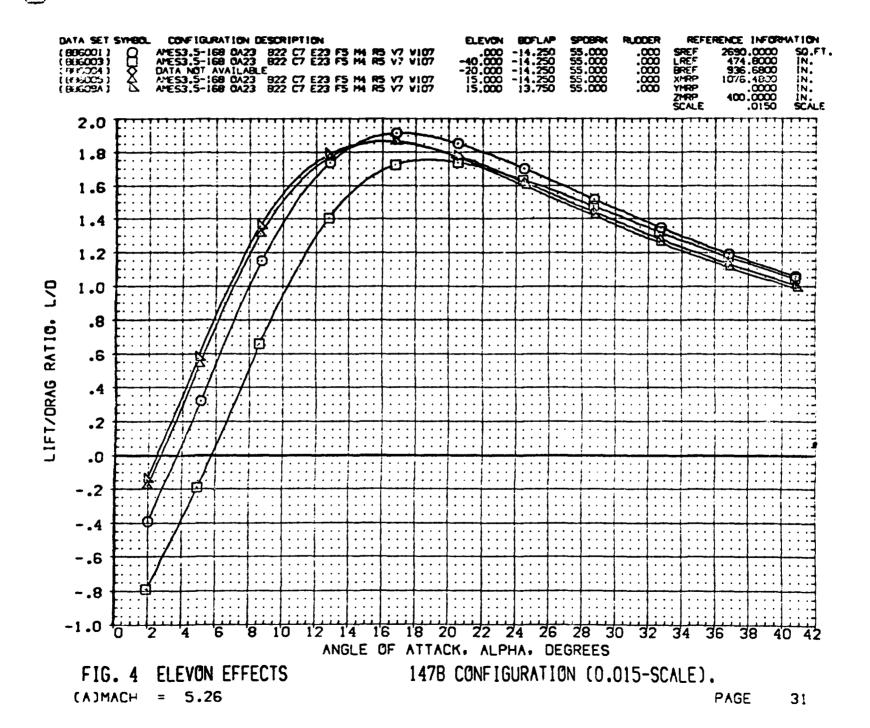


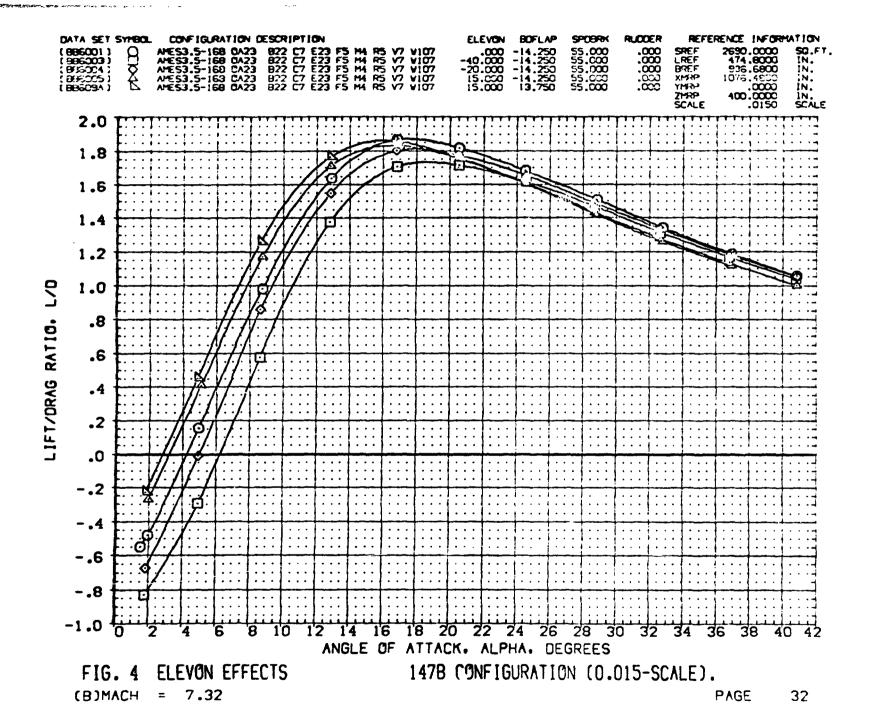


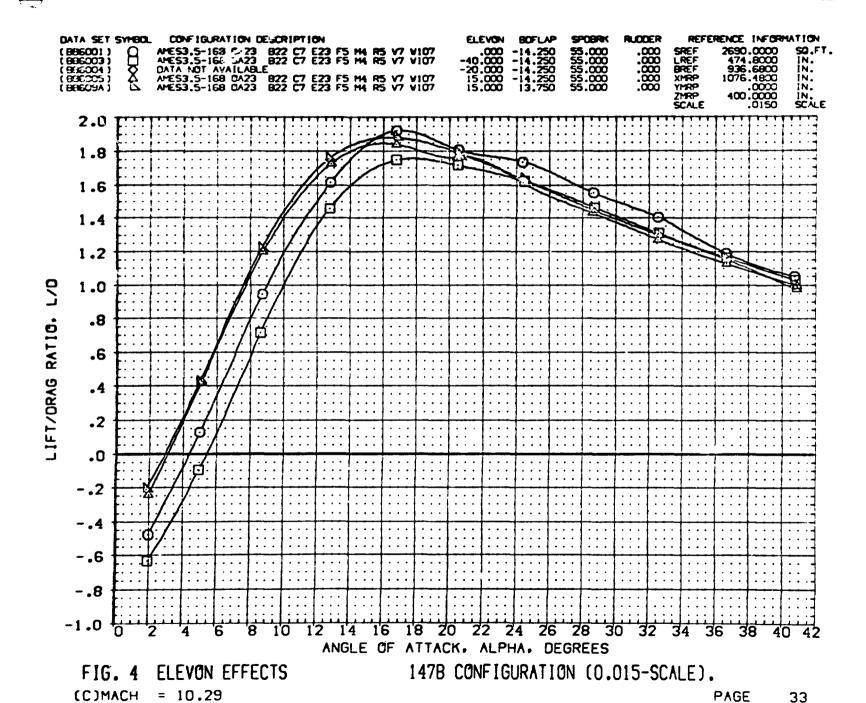


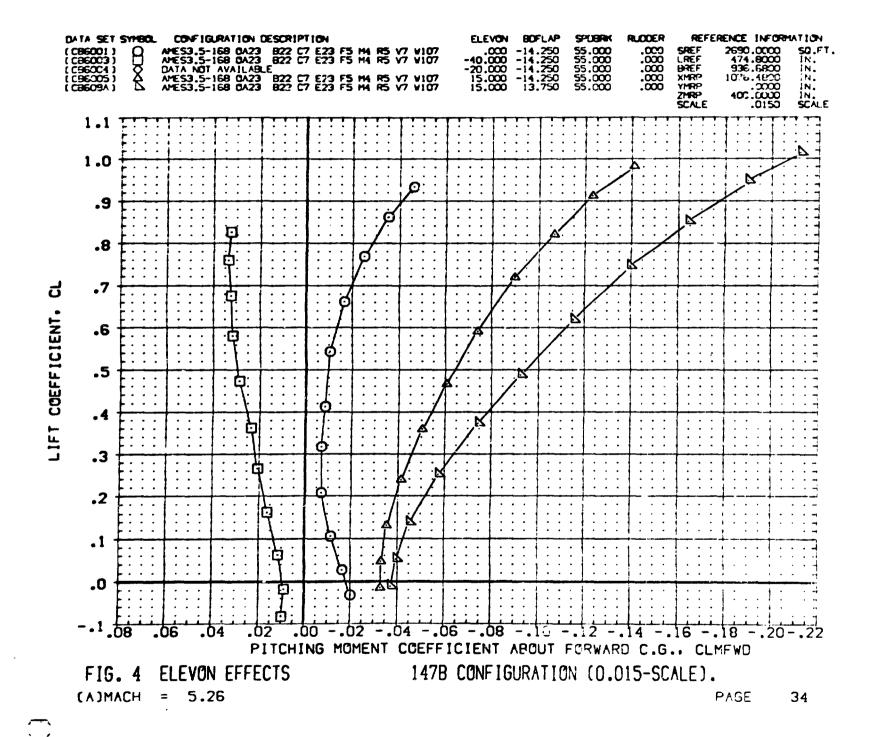


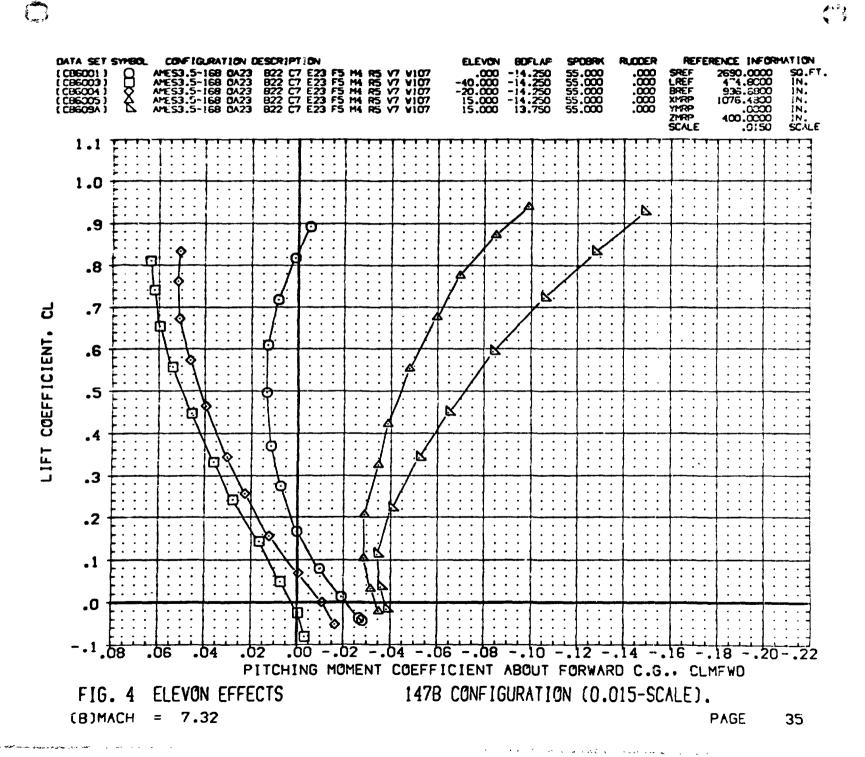


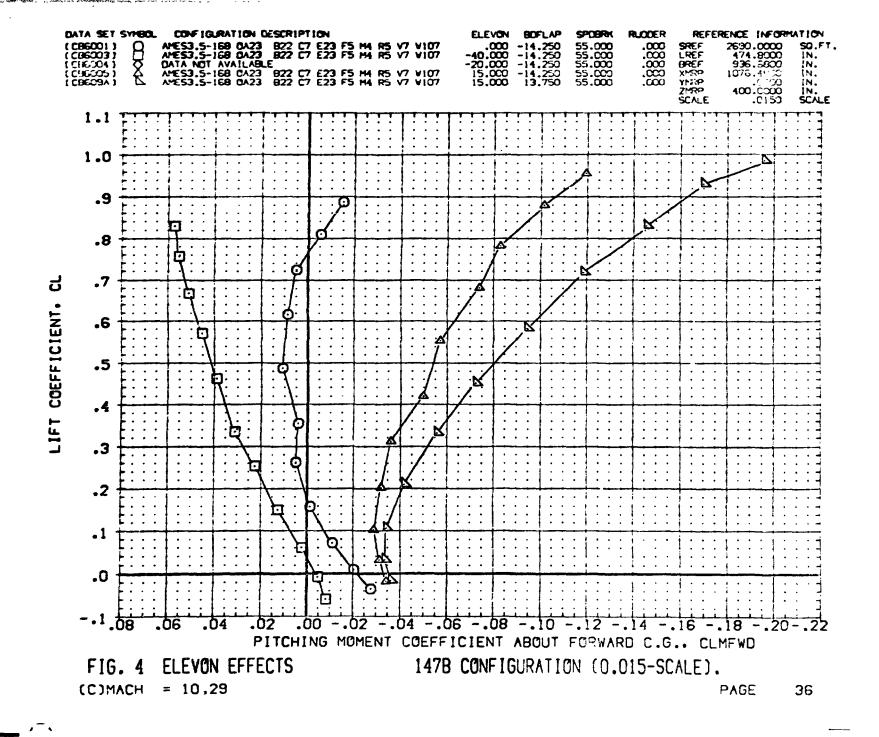


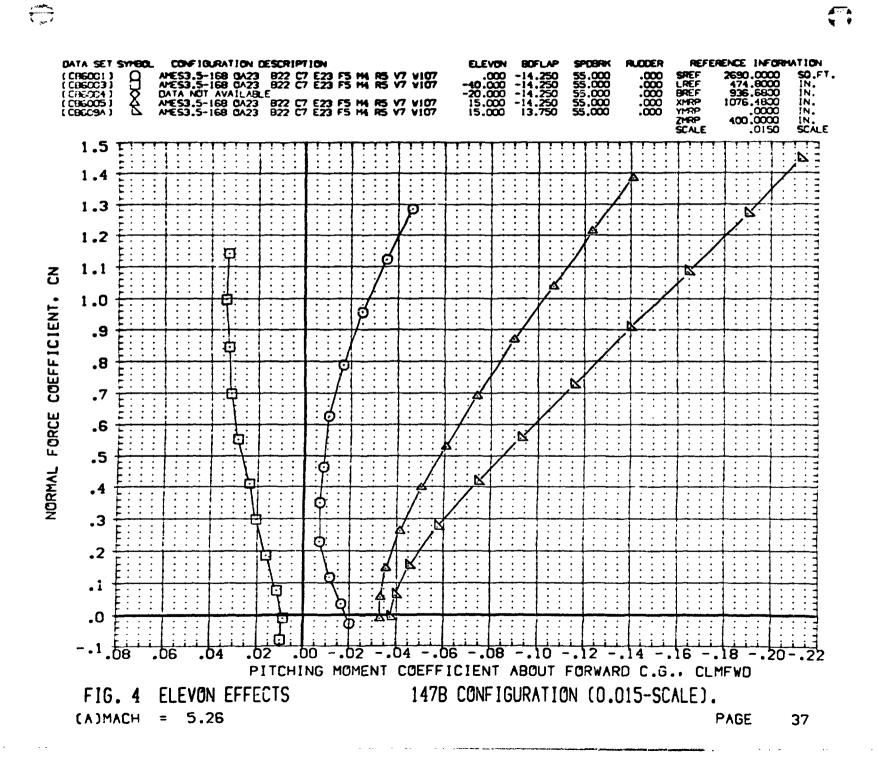


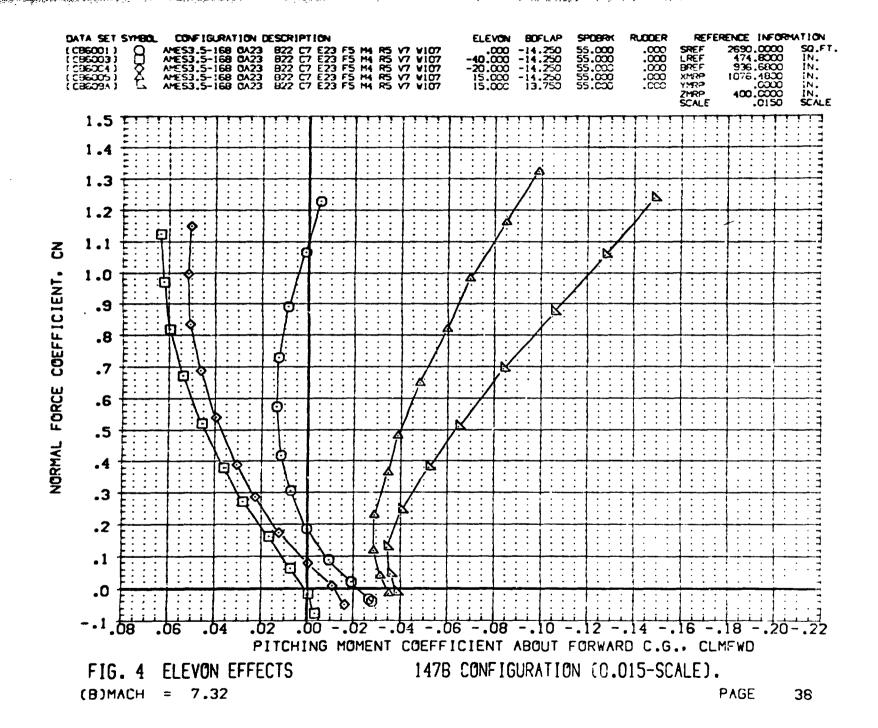


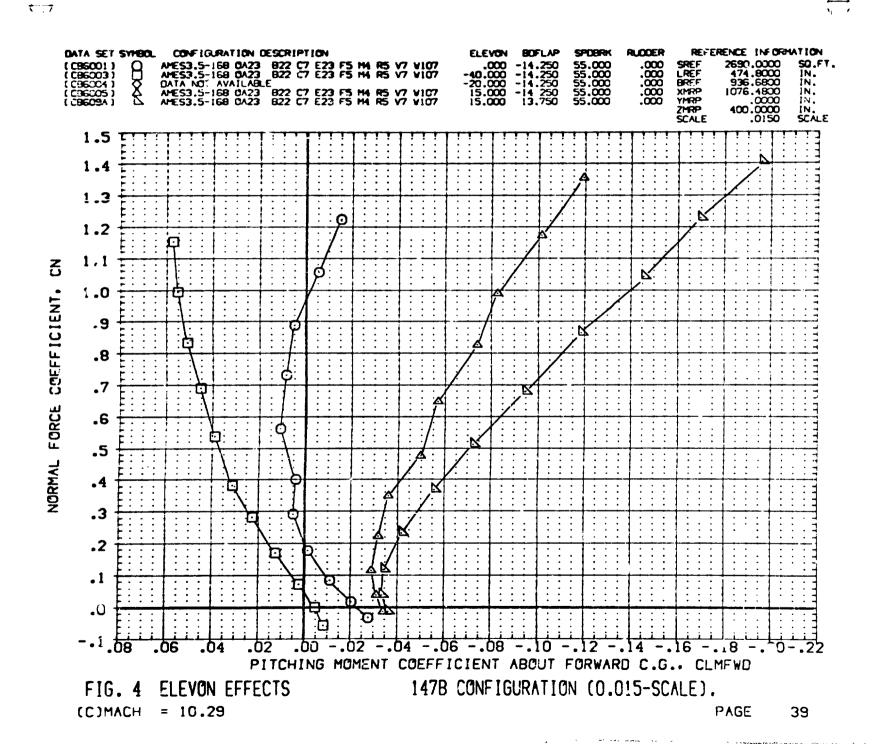


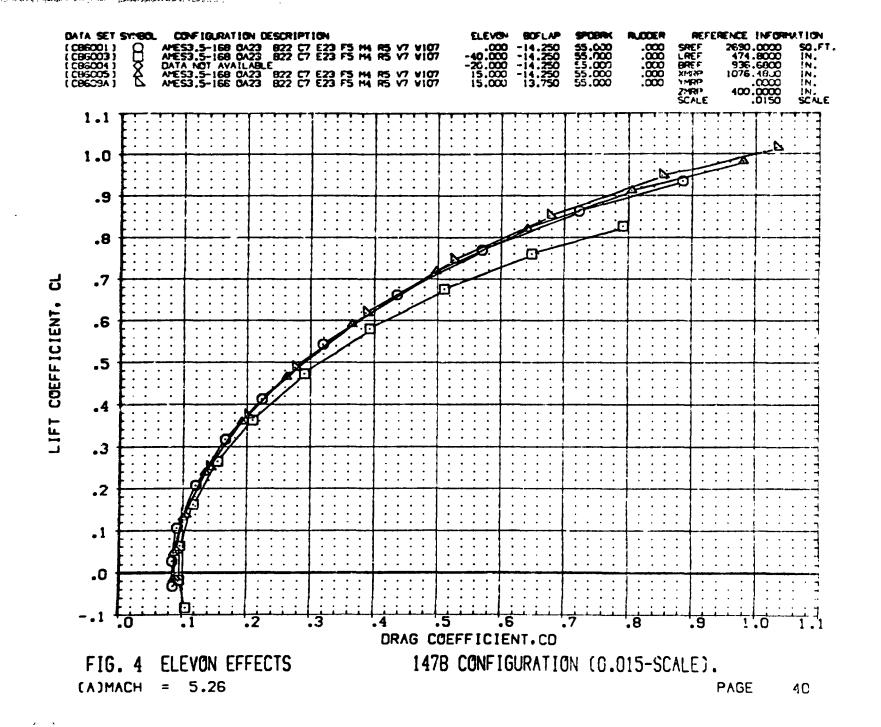


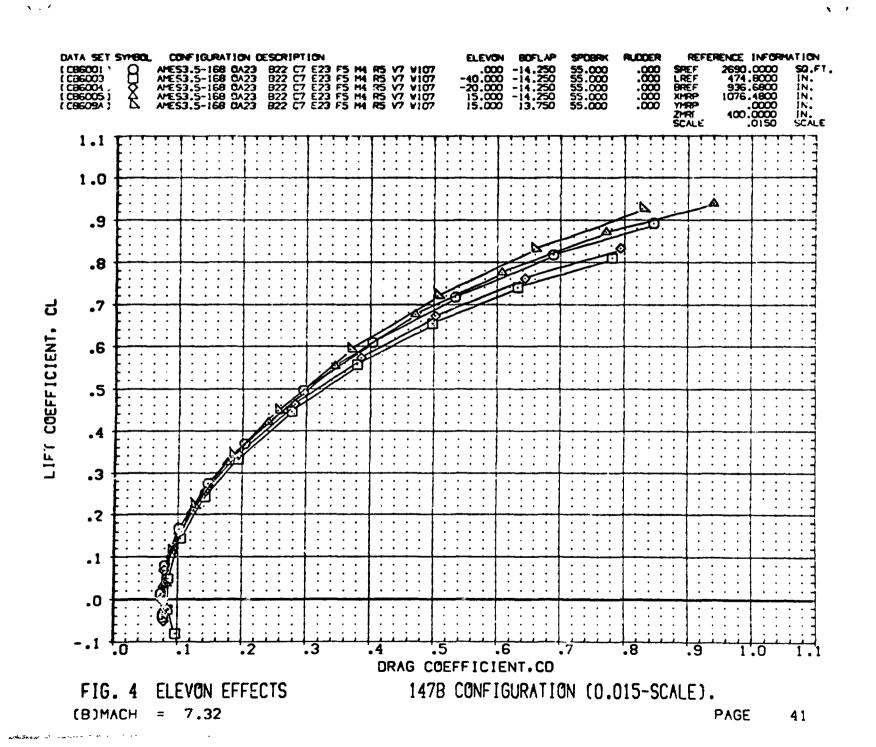


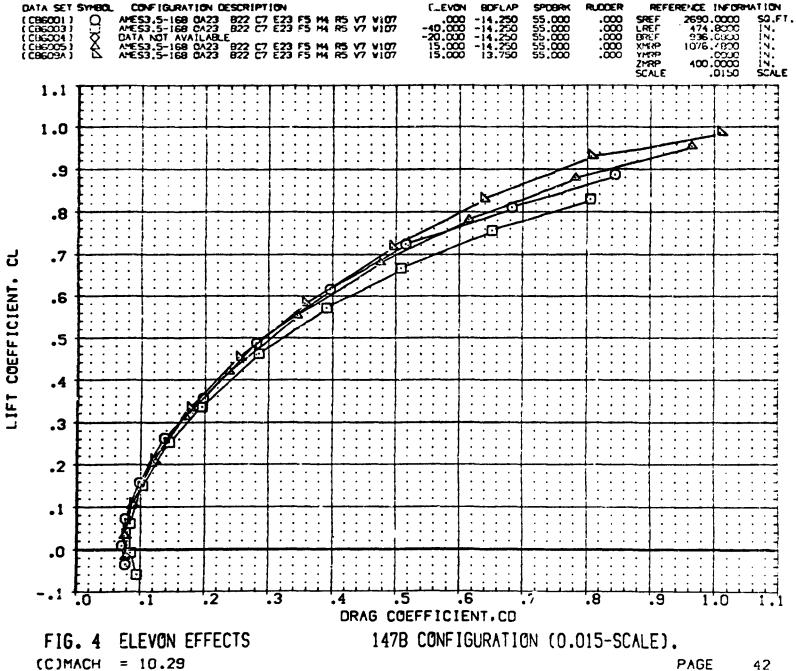


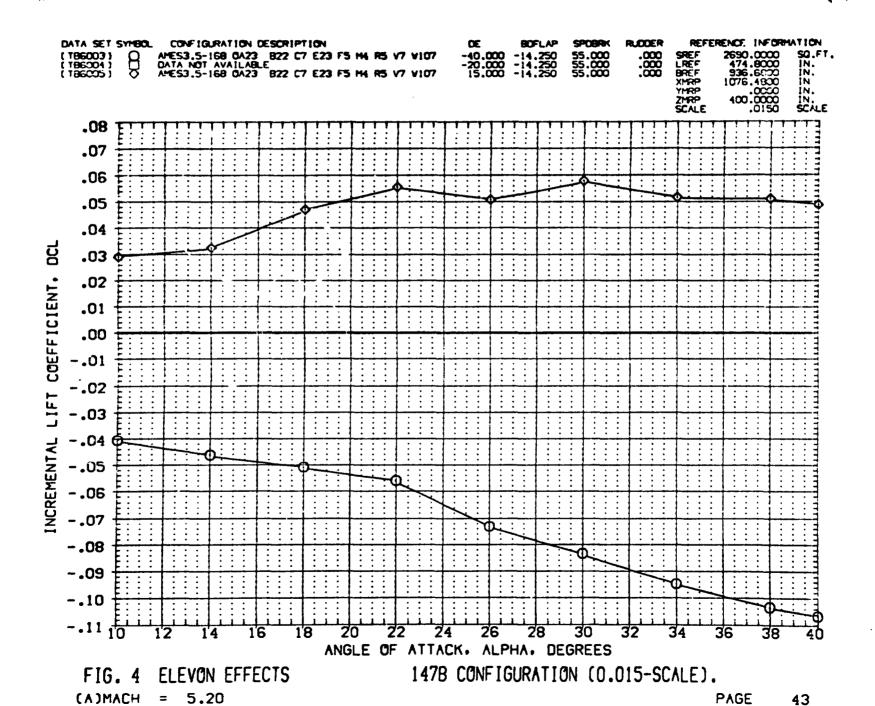


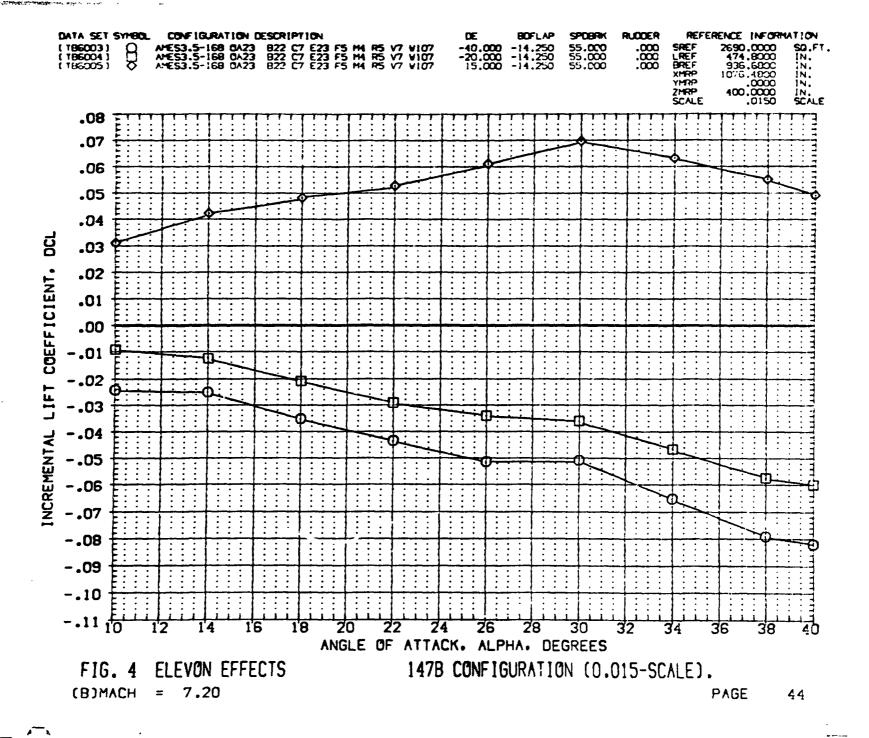


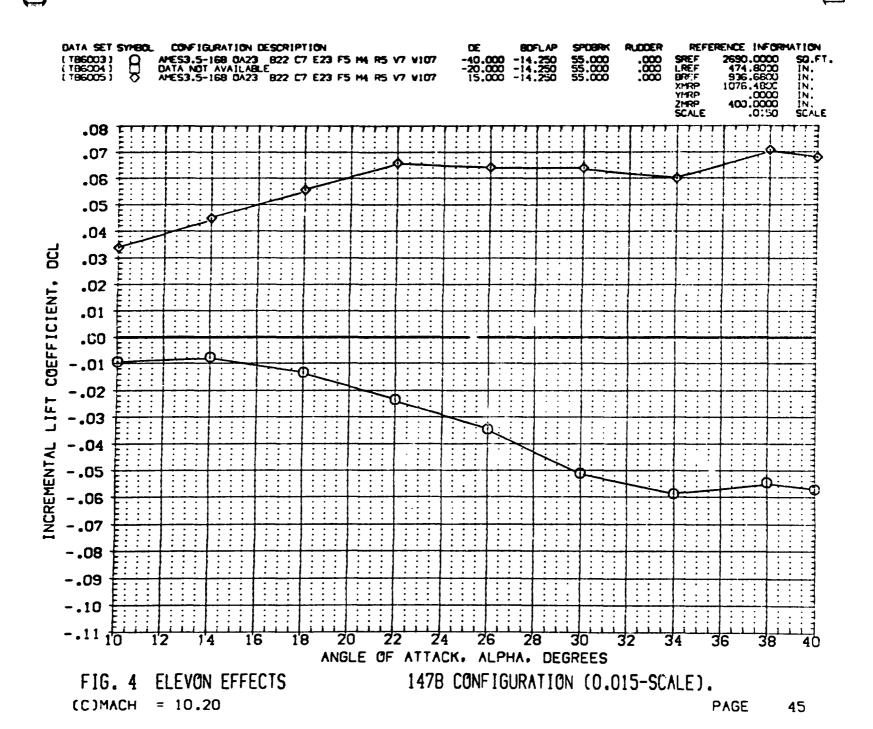




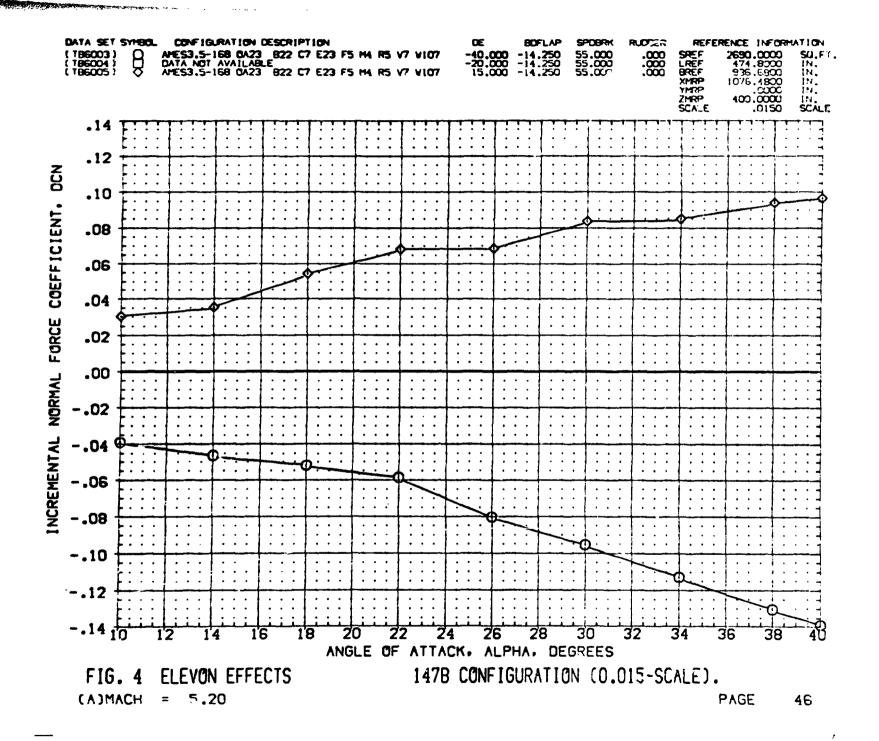




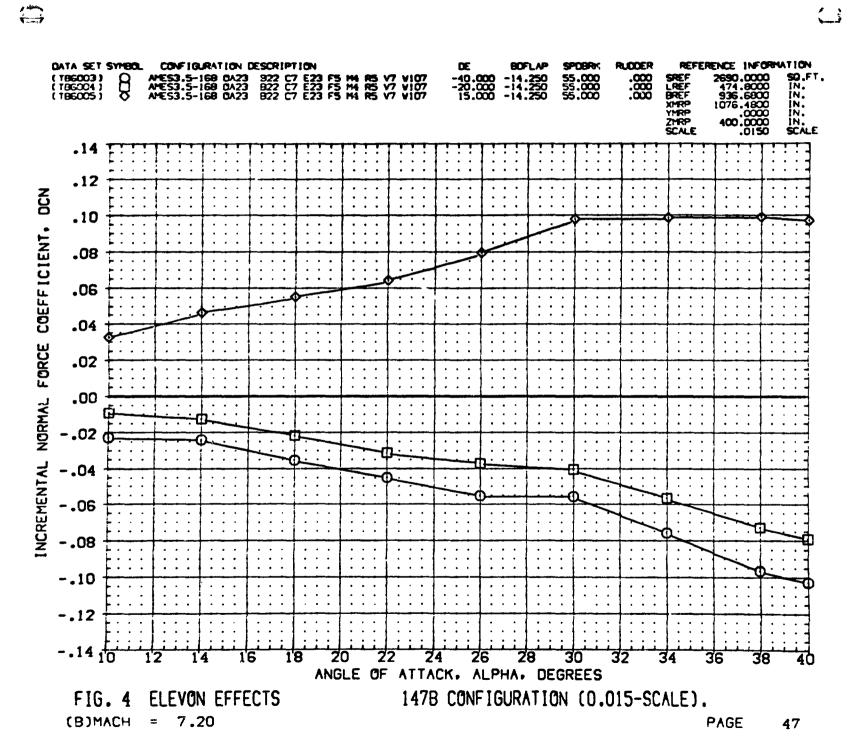


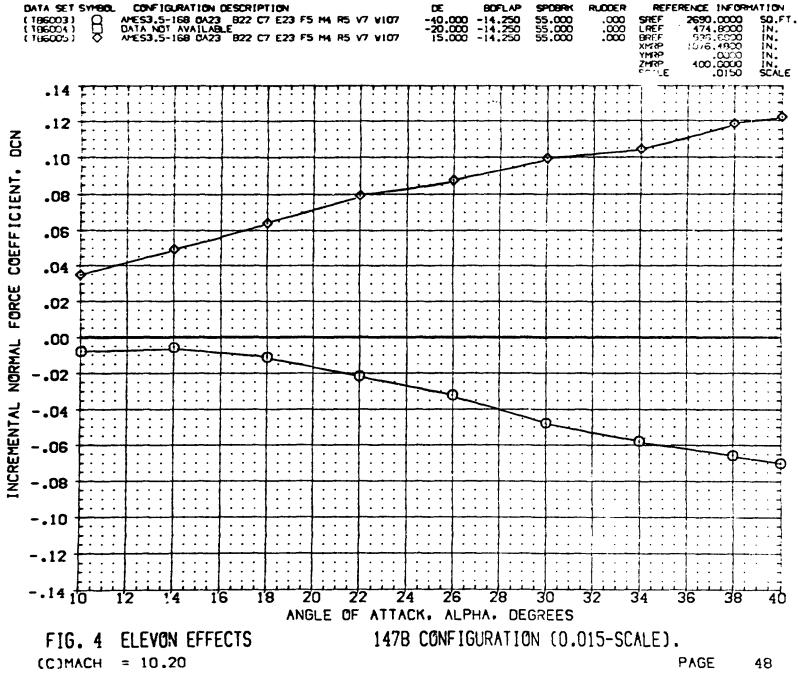


and the same the same the same the same the same that the

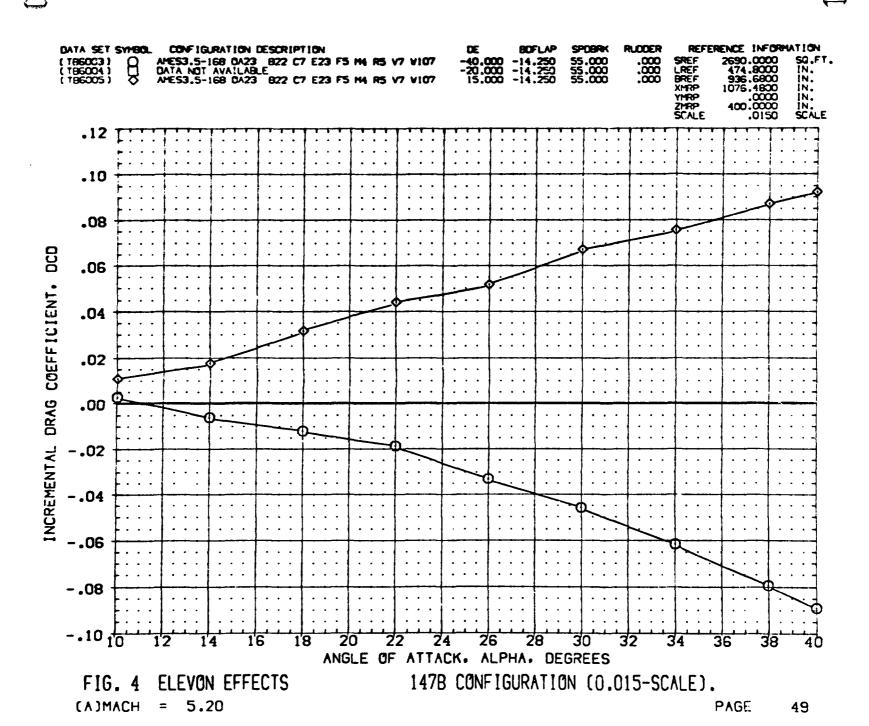


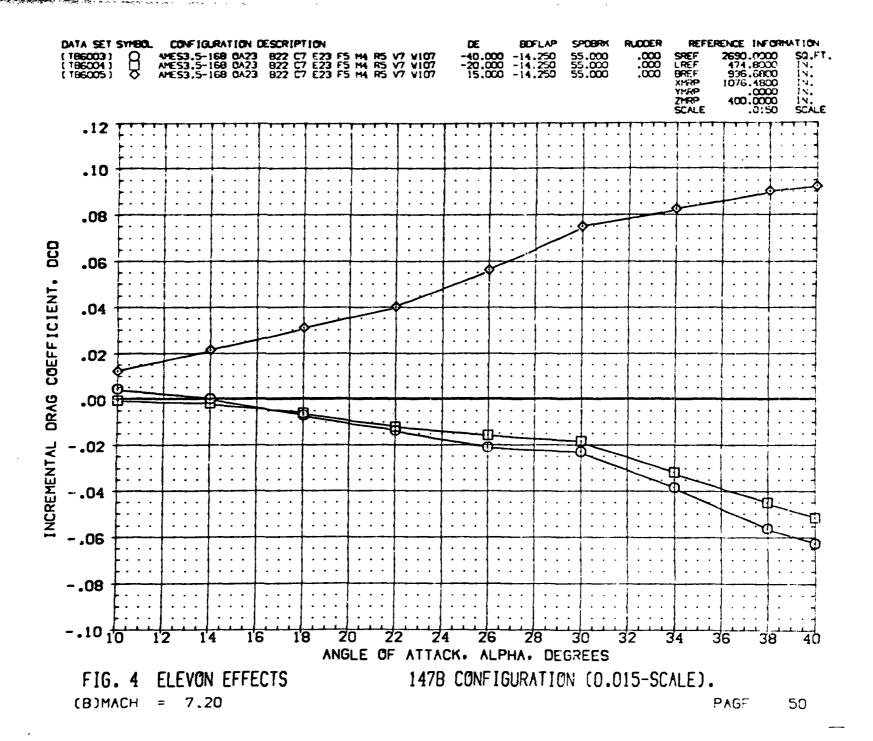


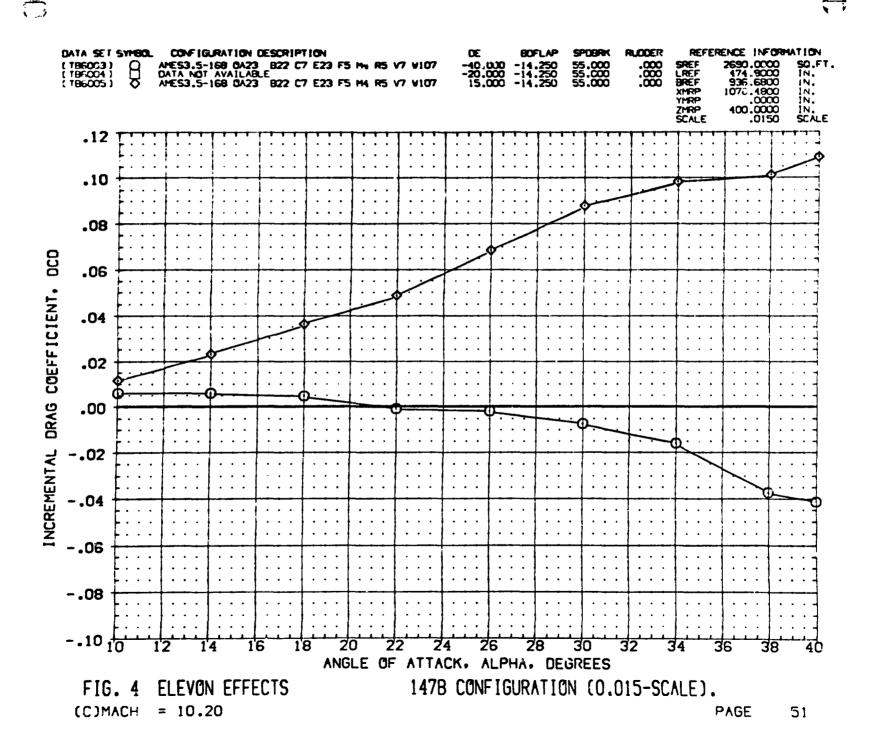


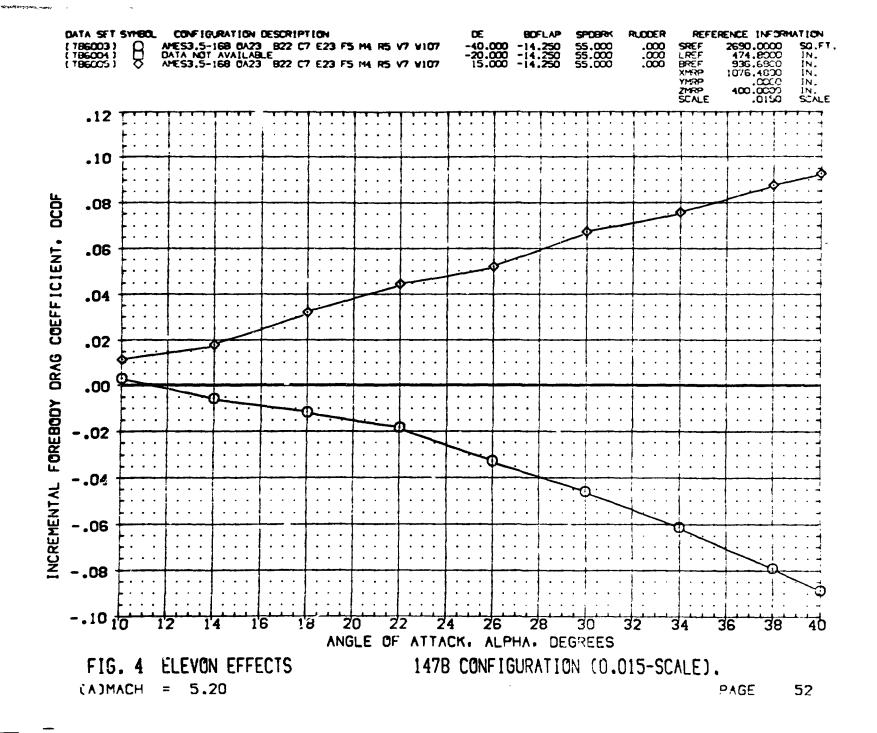


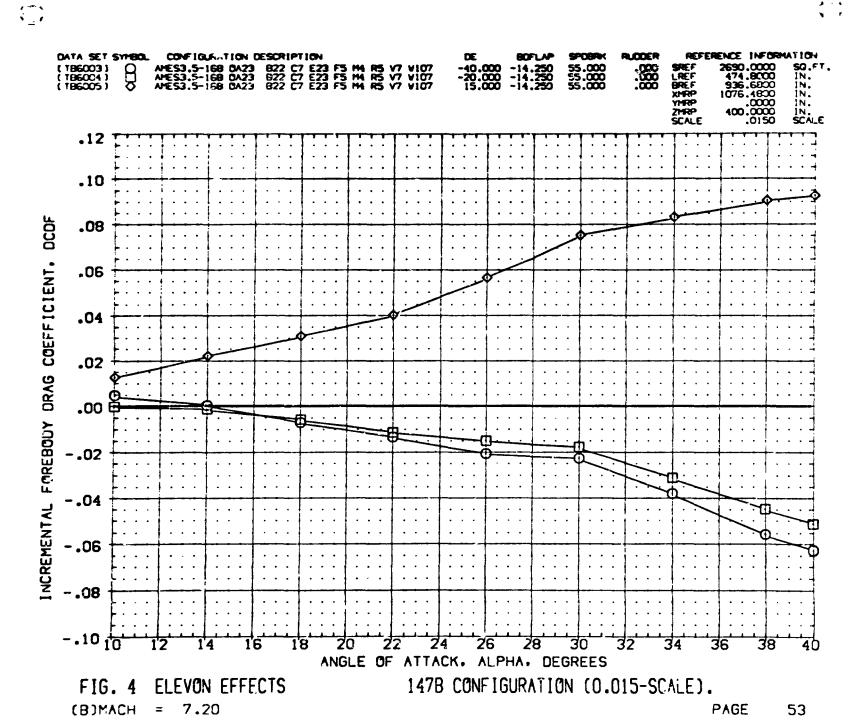
Comment of some have the sound of the sound

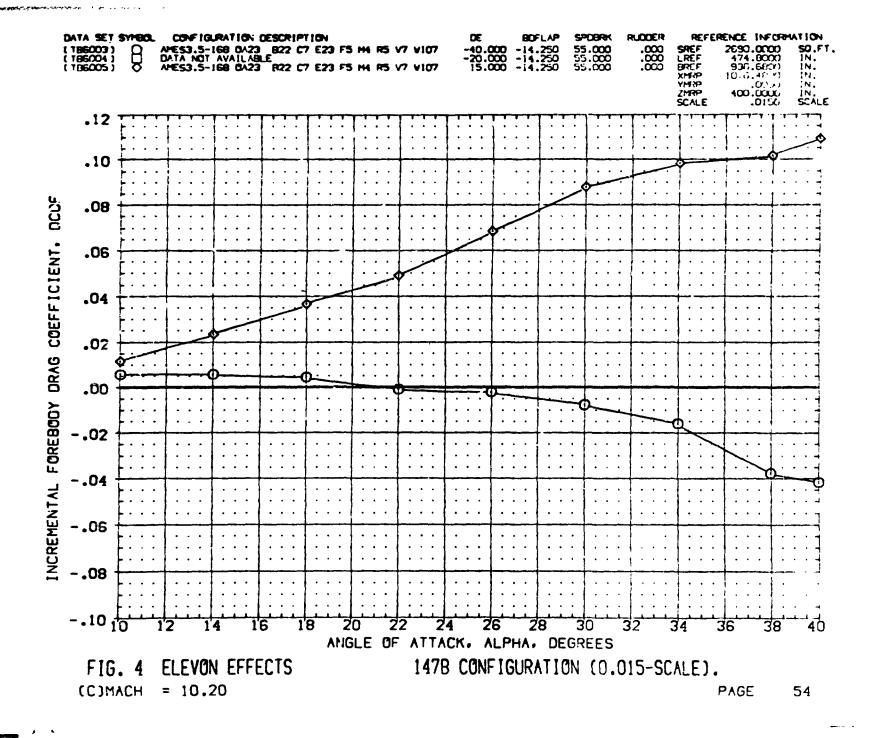




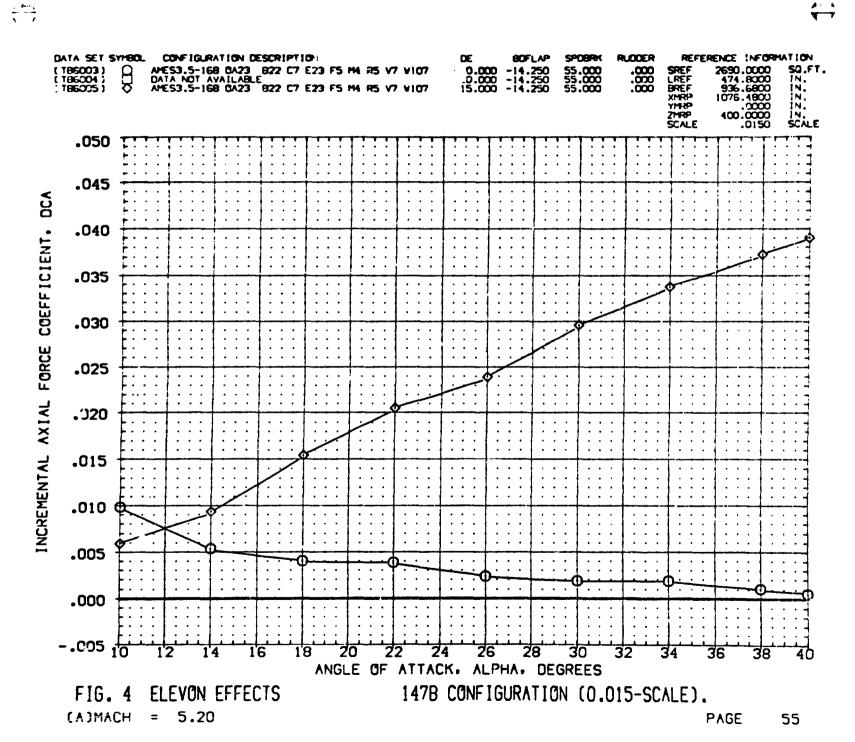


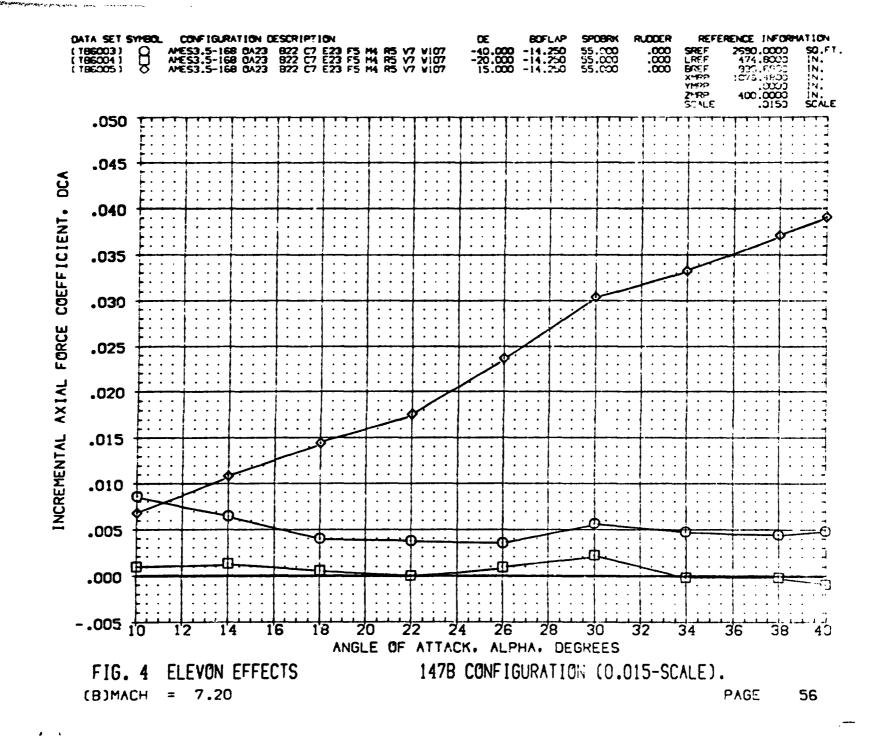




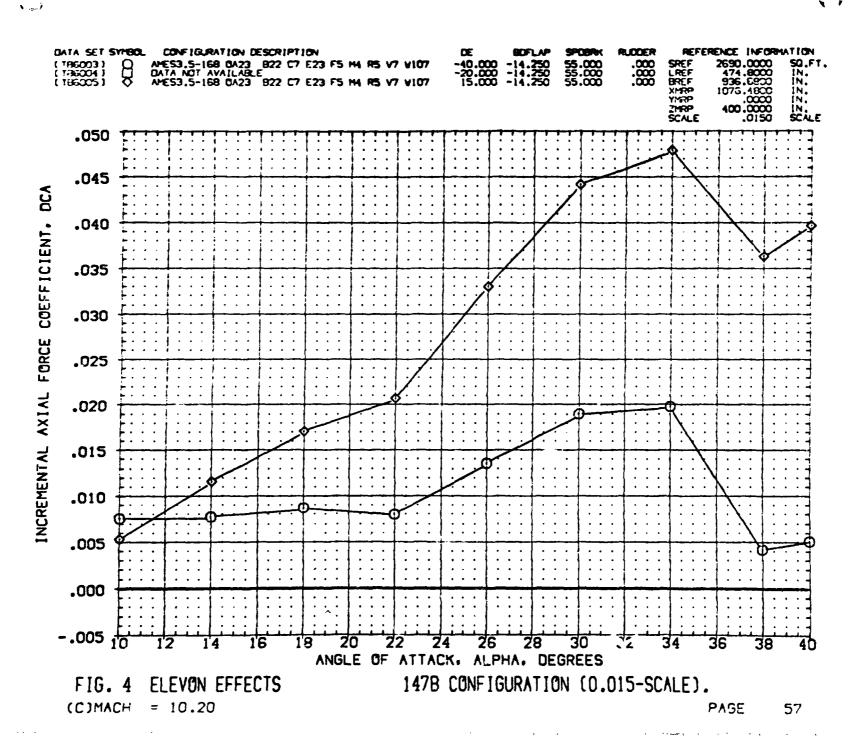


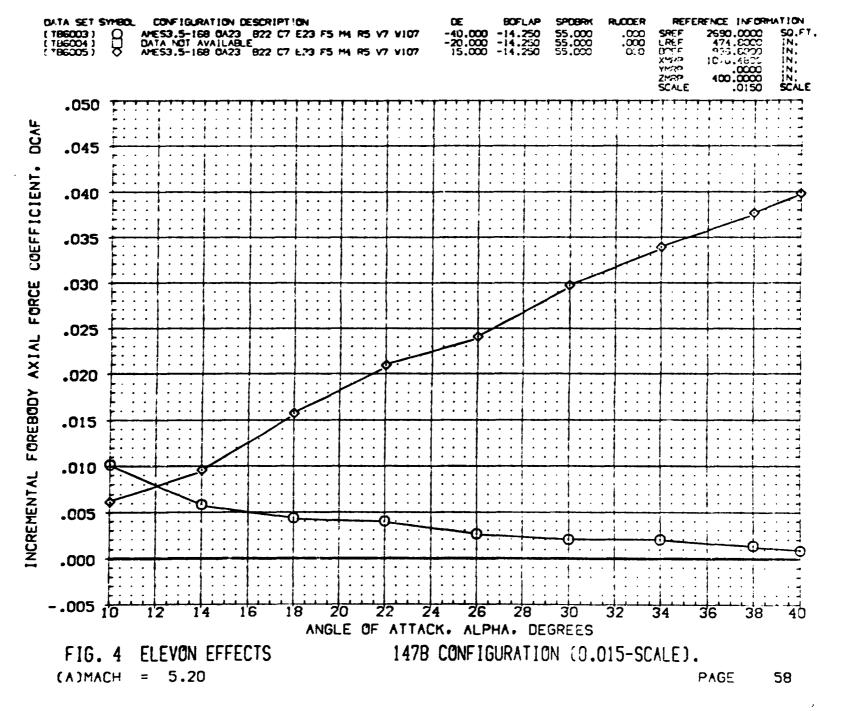




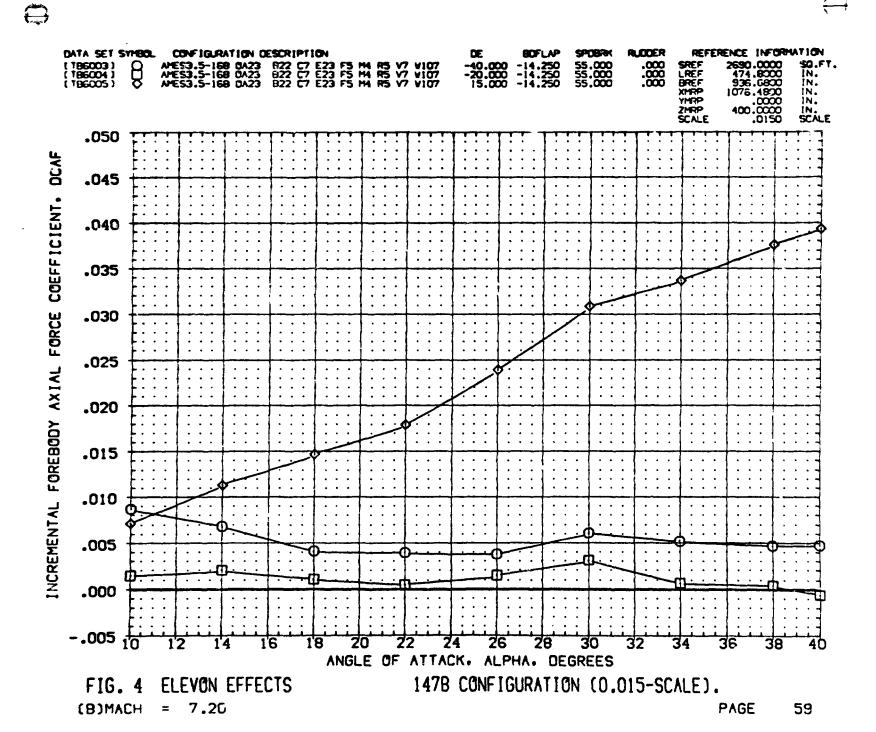


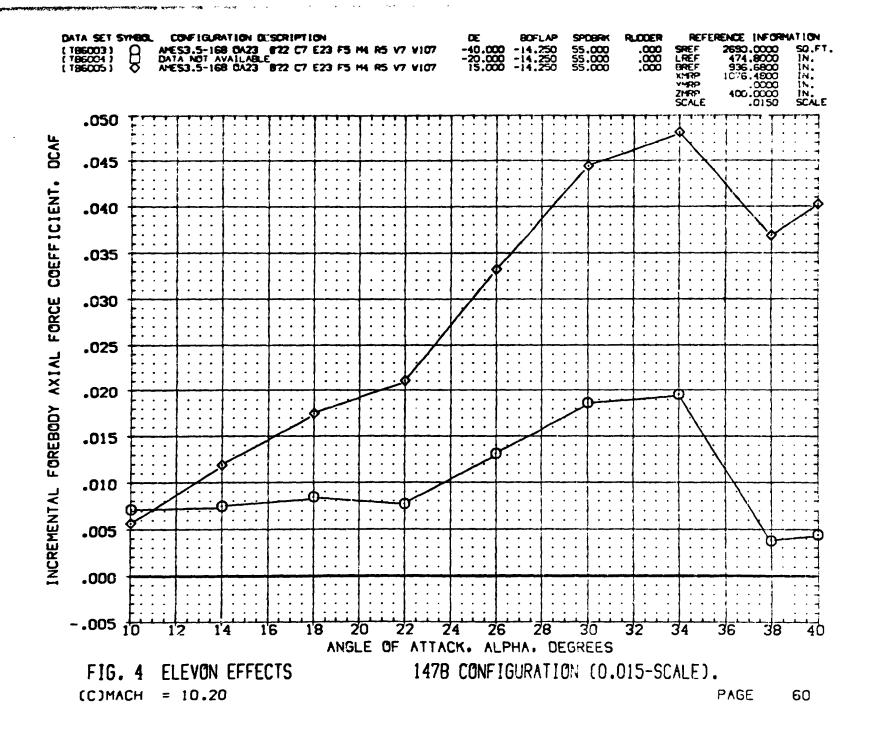


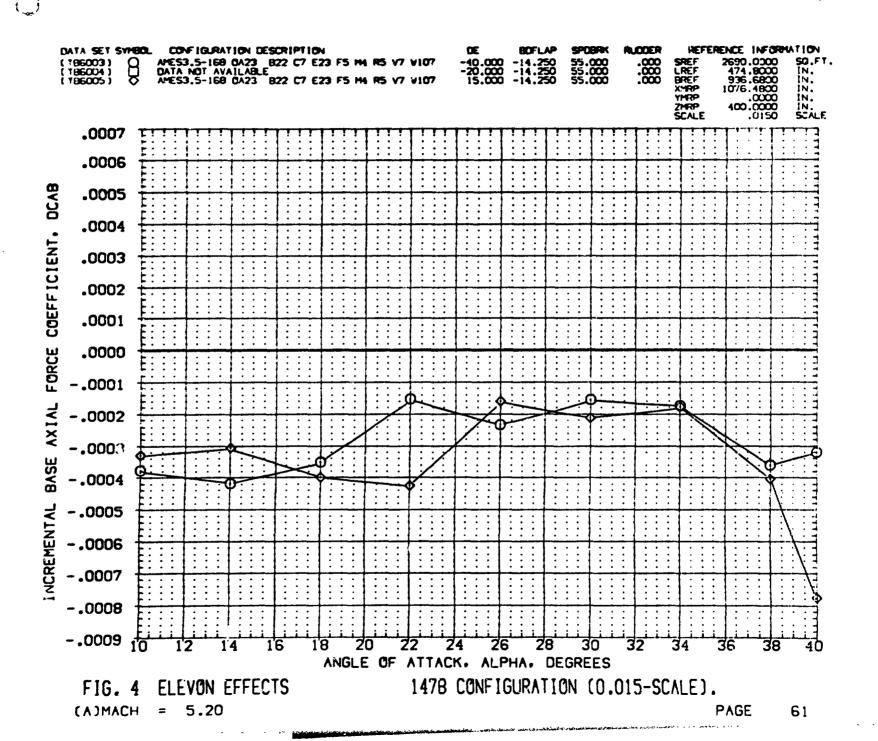


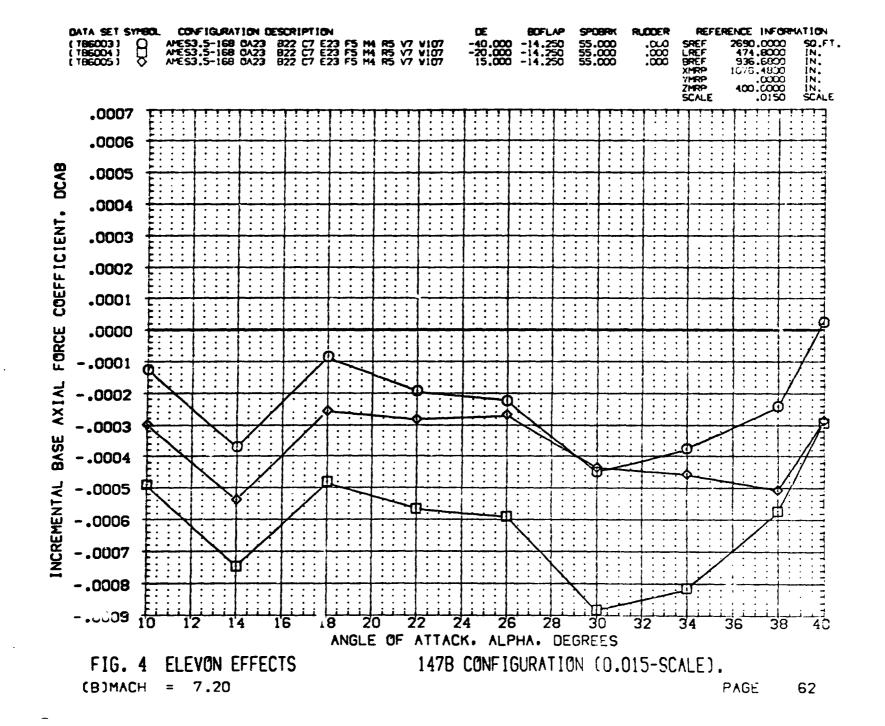


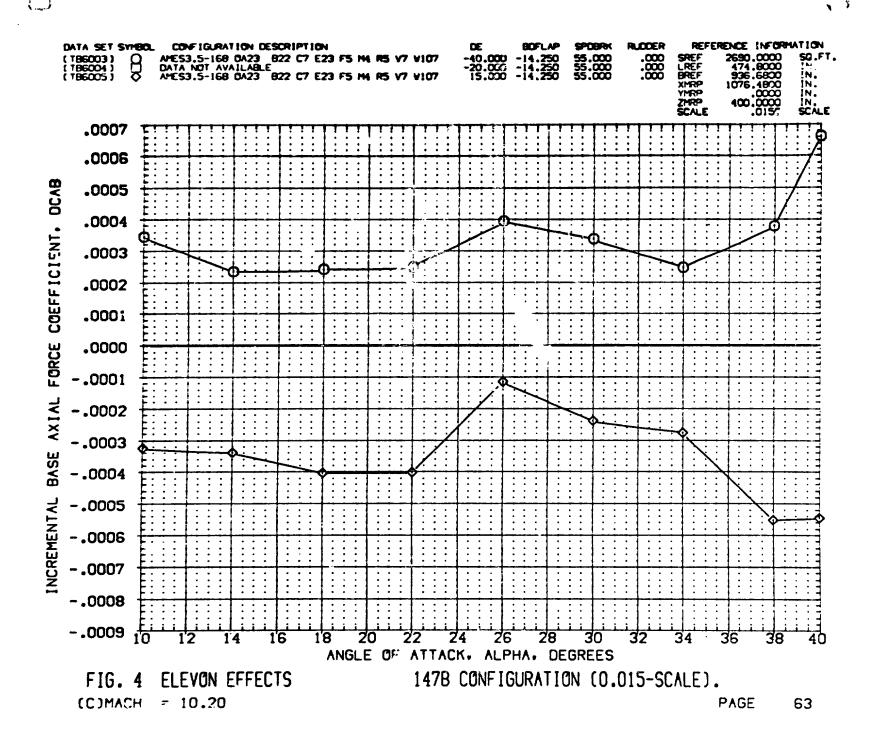
 $= \stackrel{\leftarrow}{}$ 

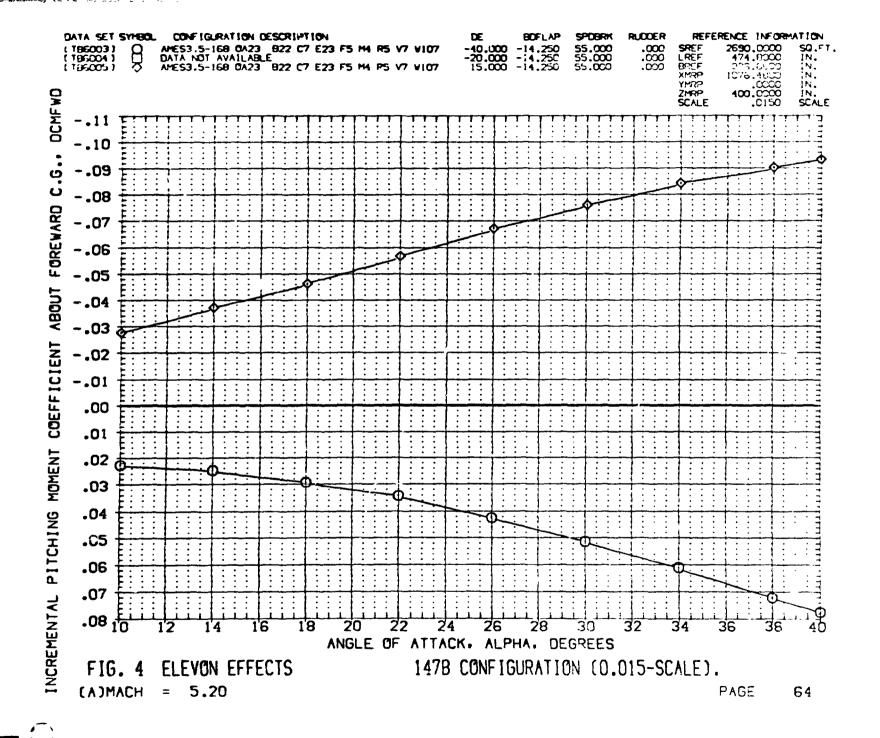


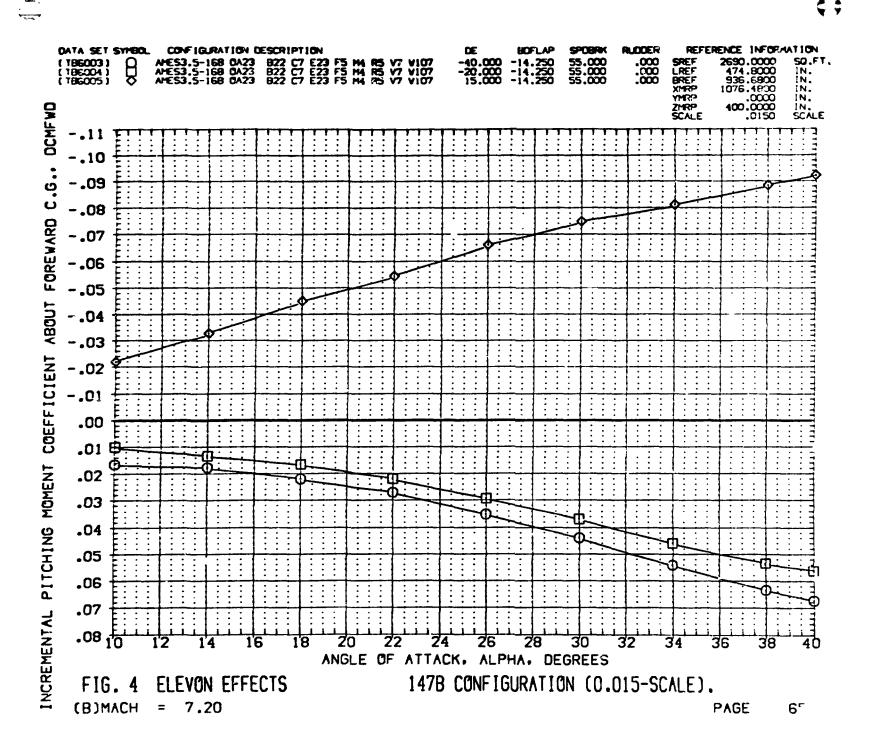


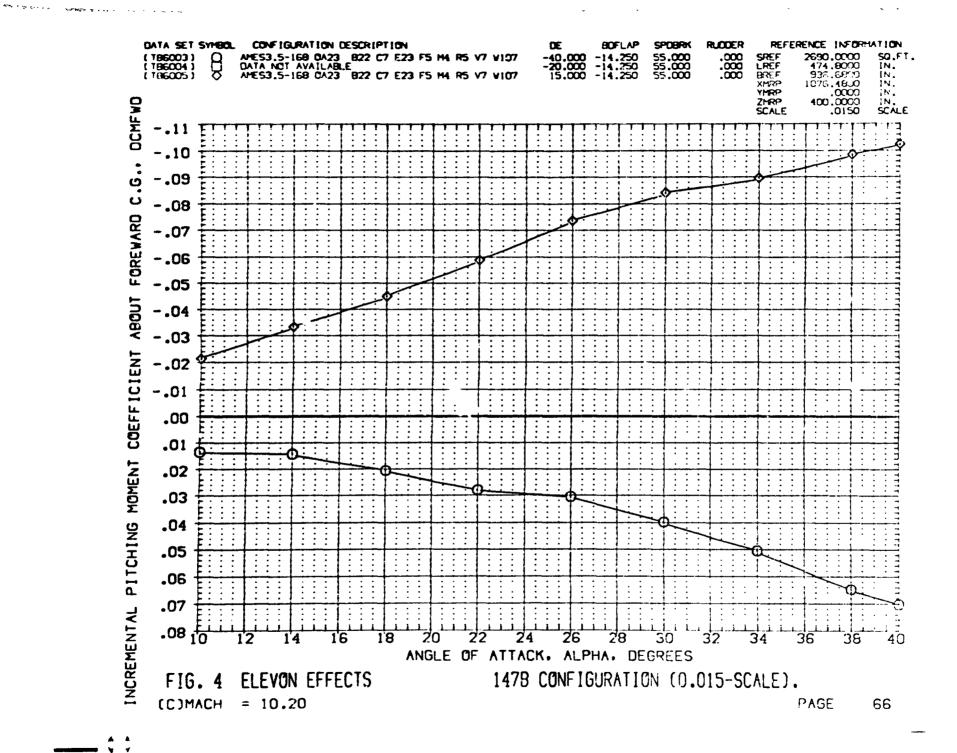


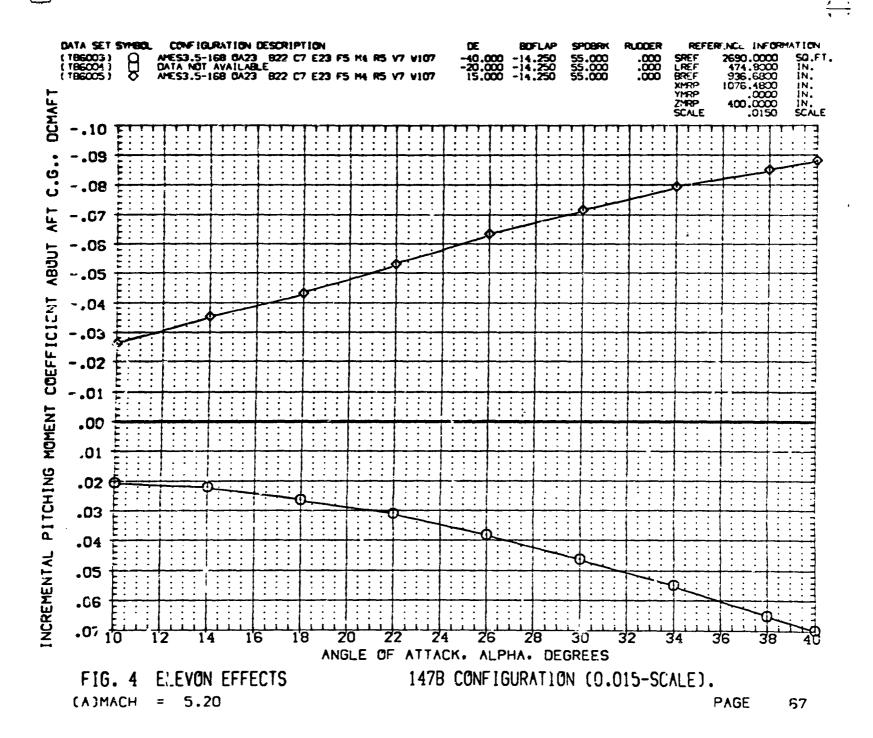


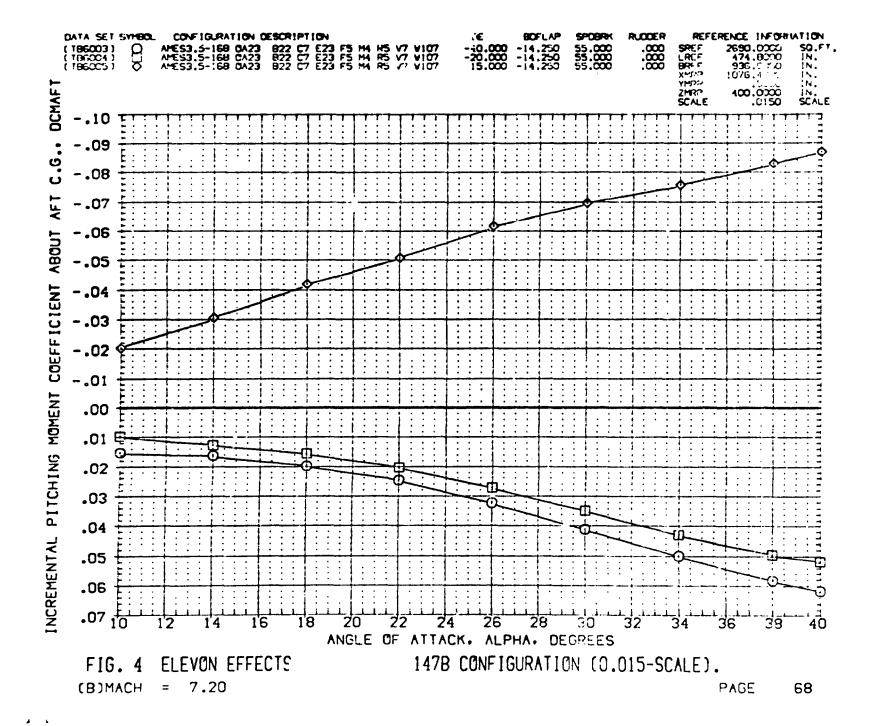


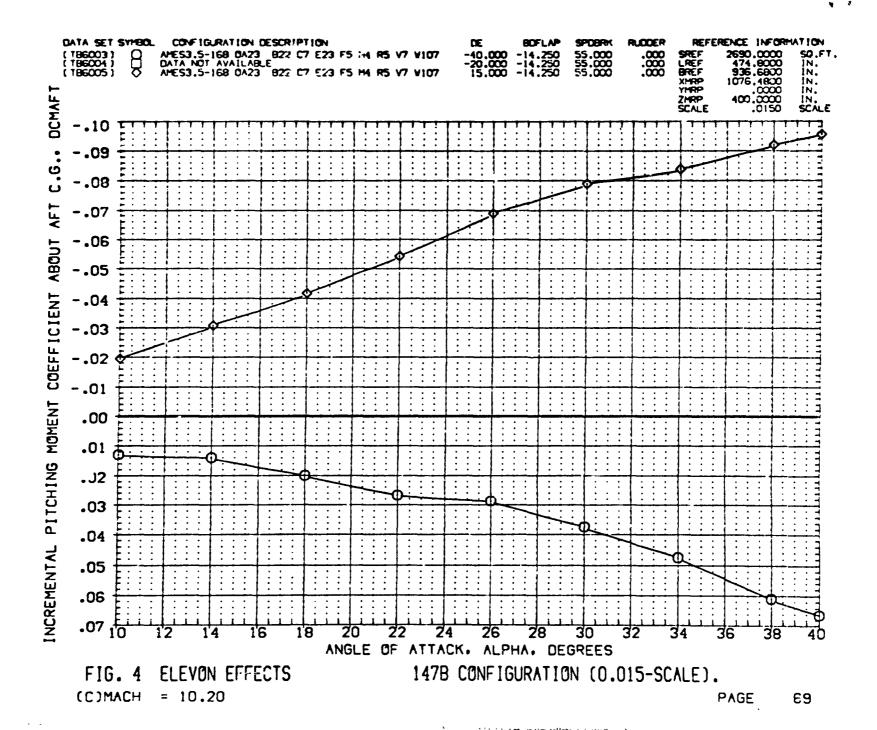


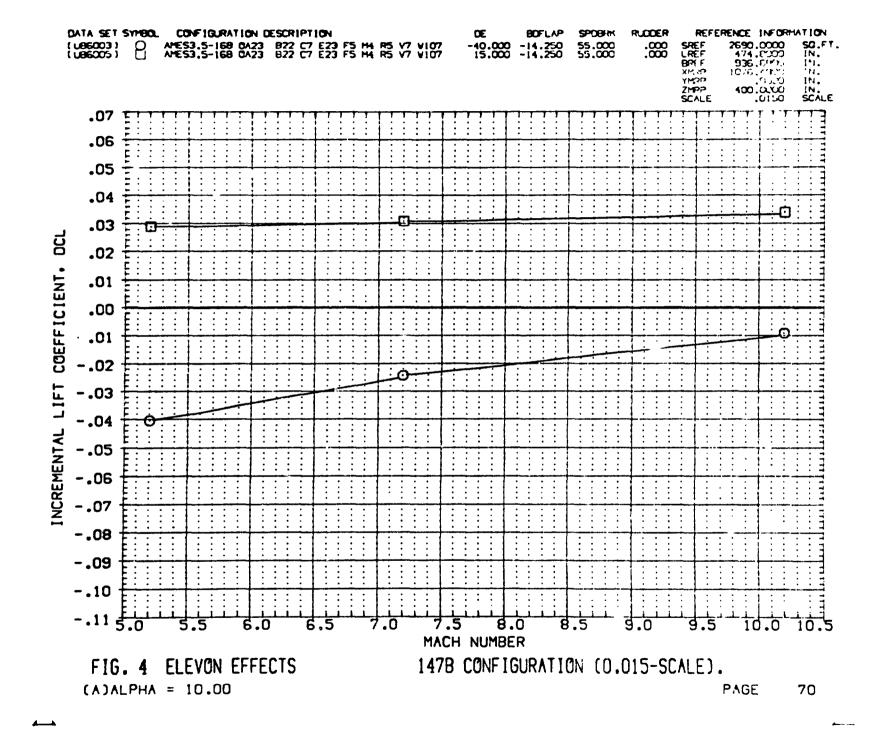


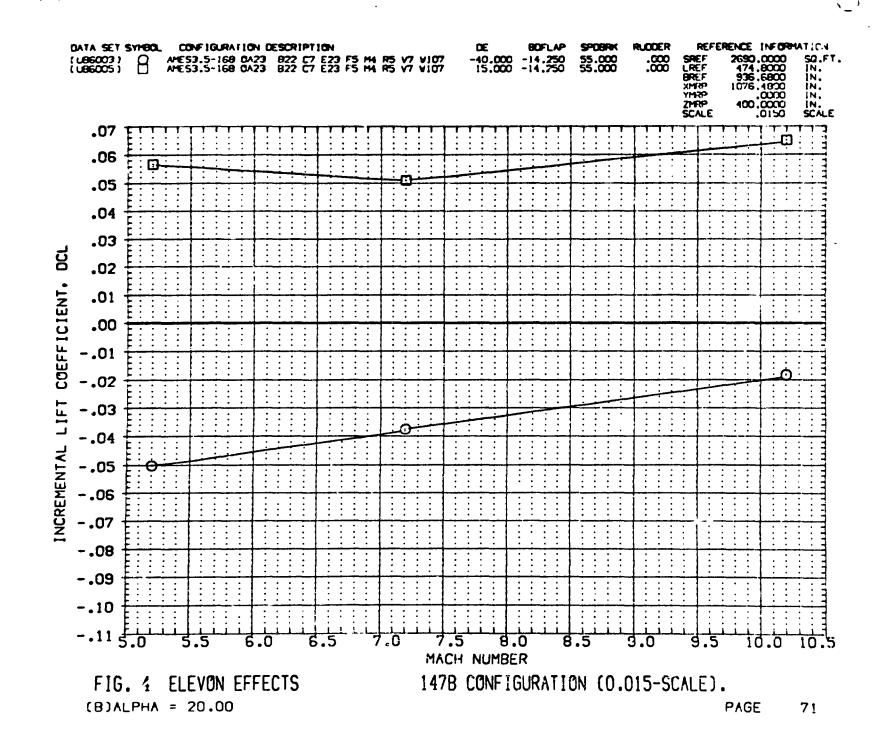




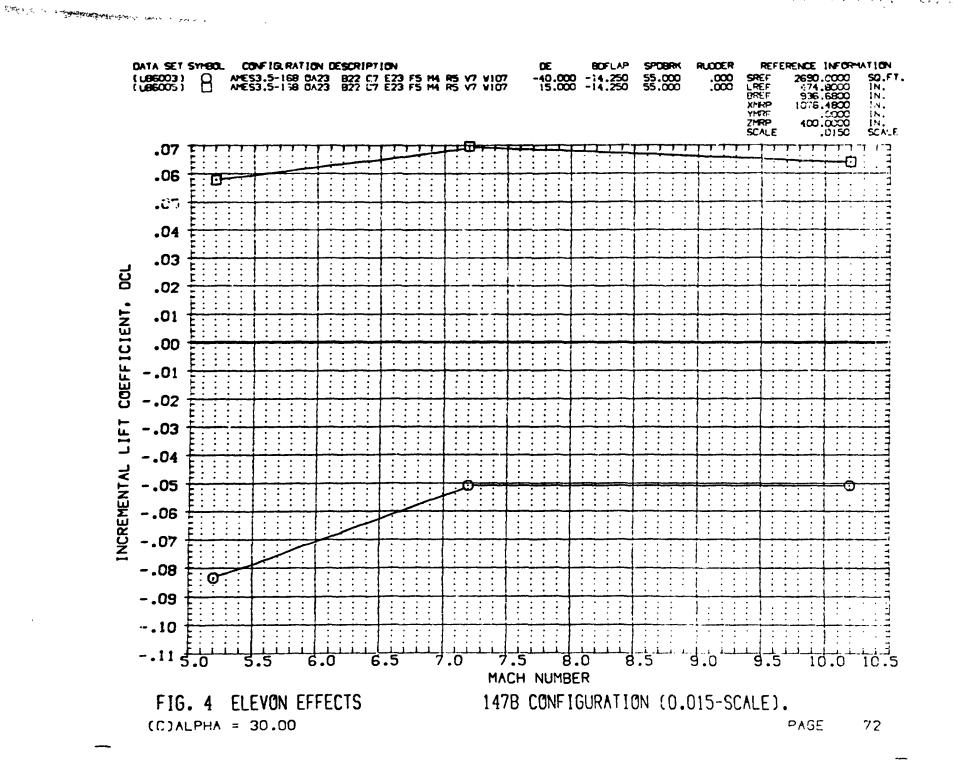


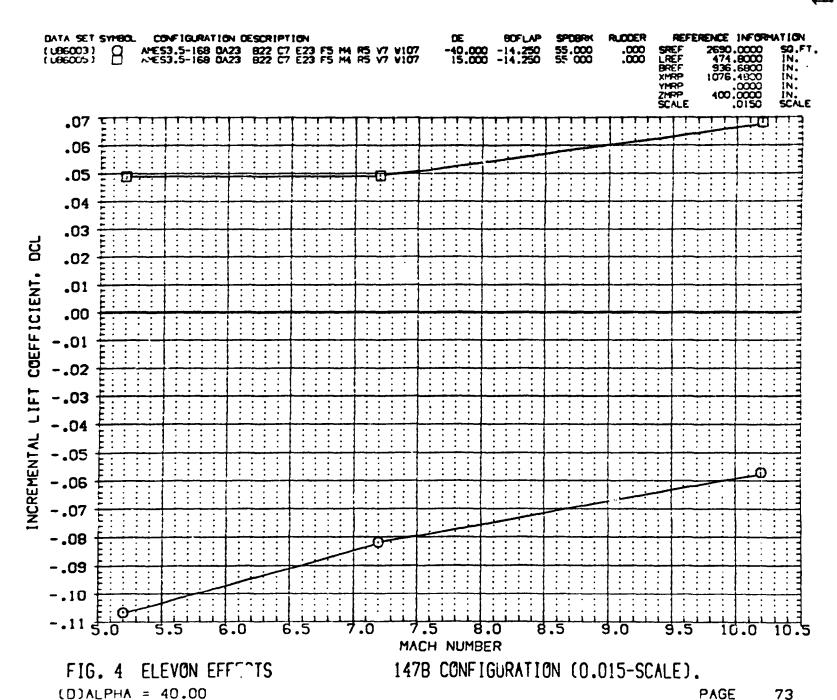


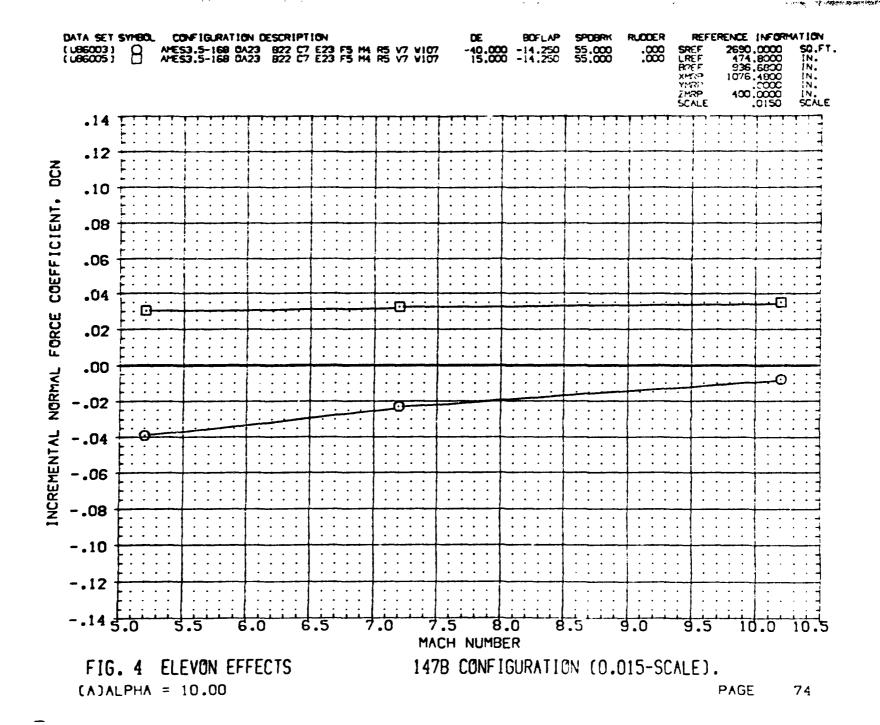




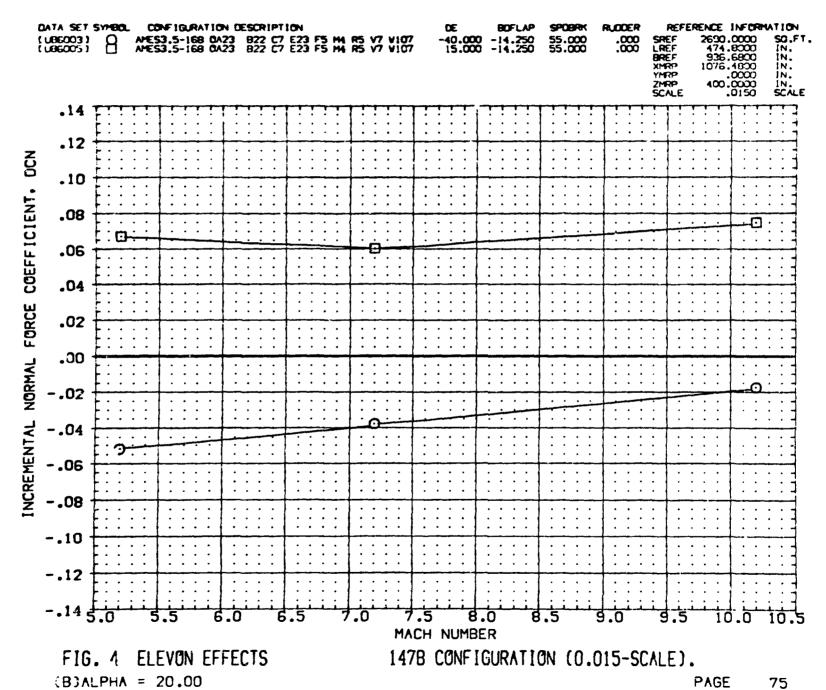
. 4 😘

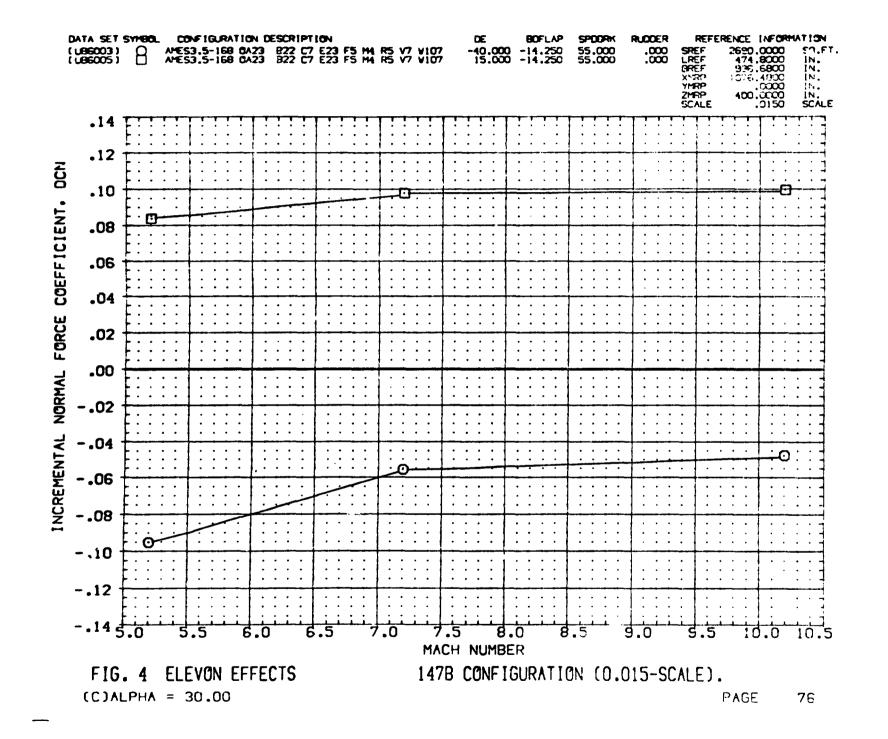


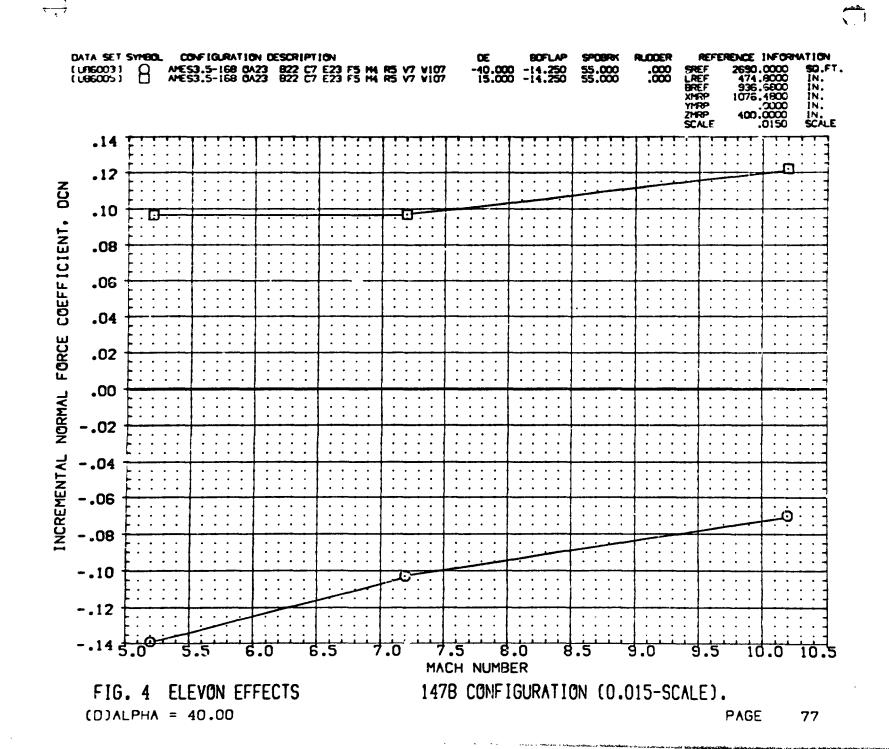


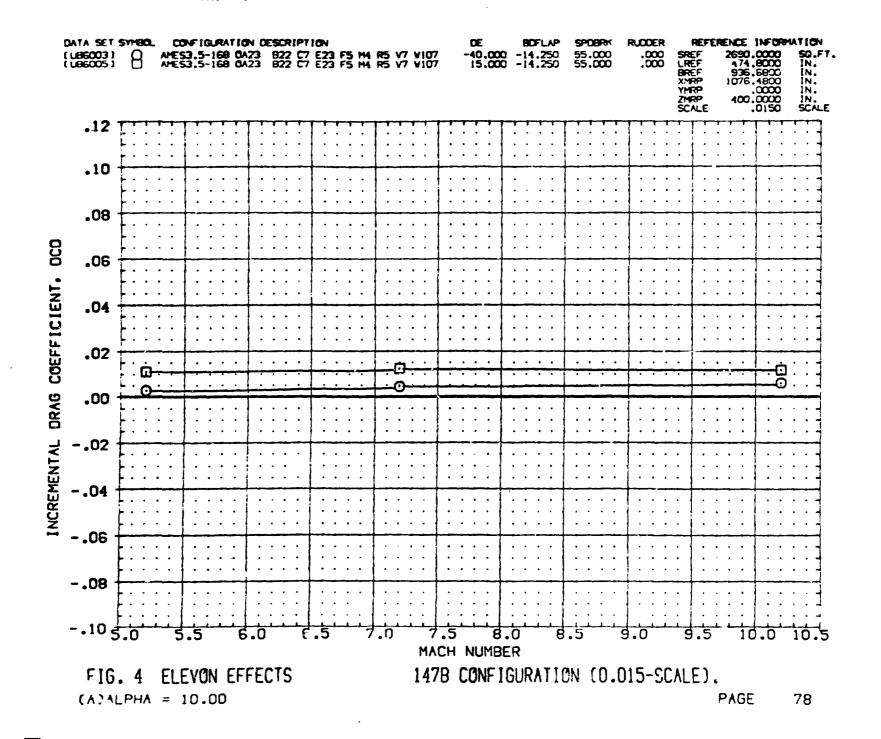


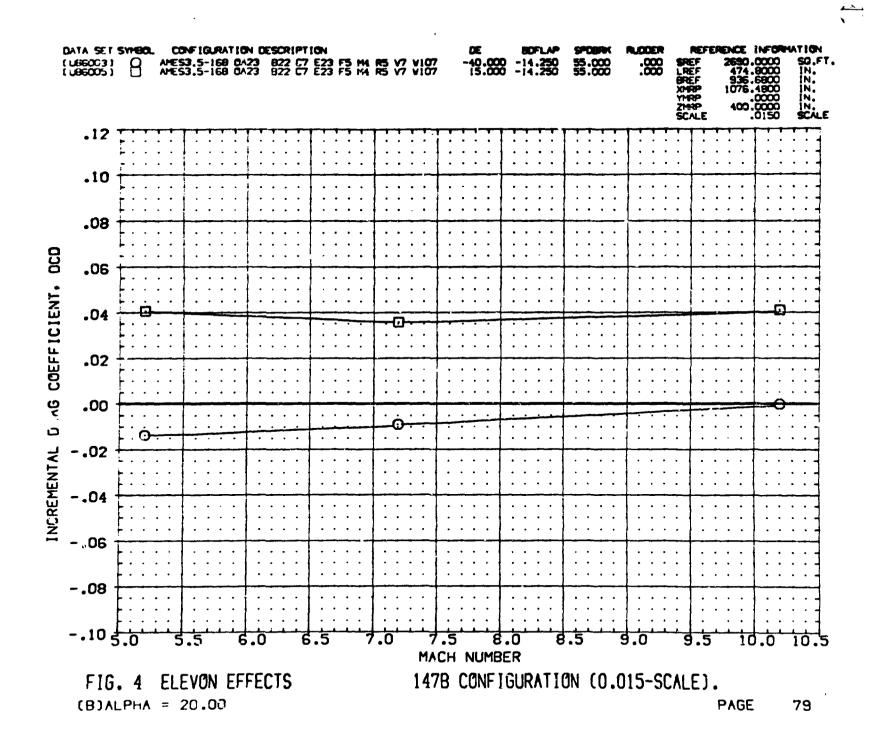


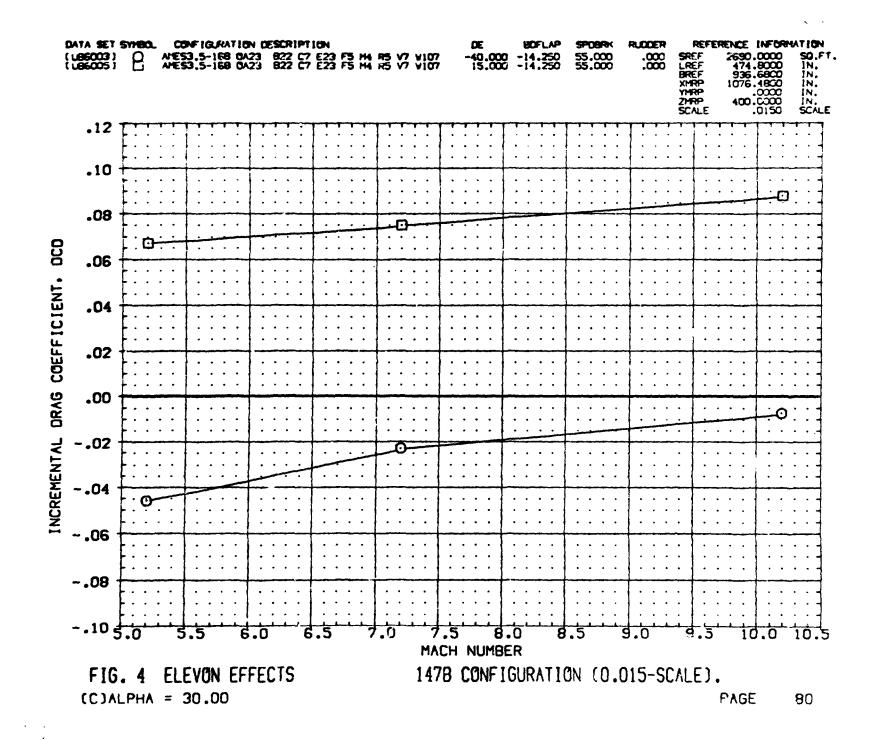


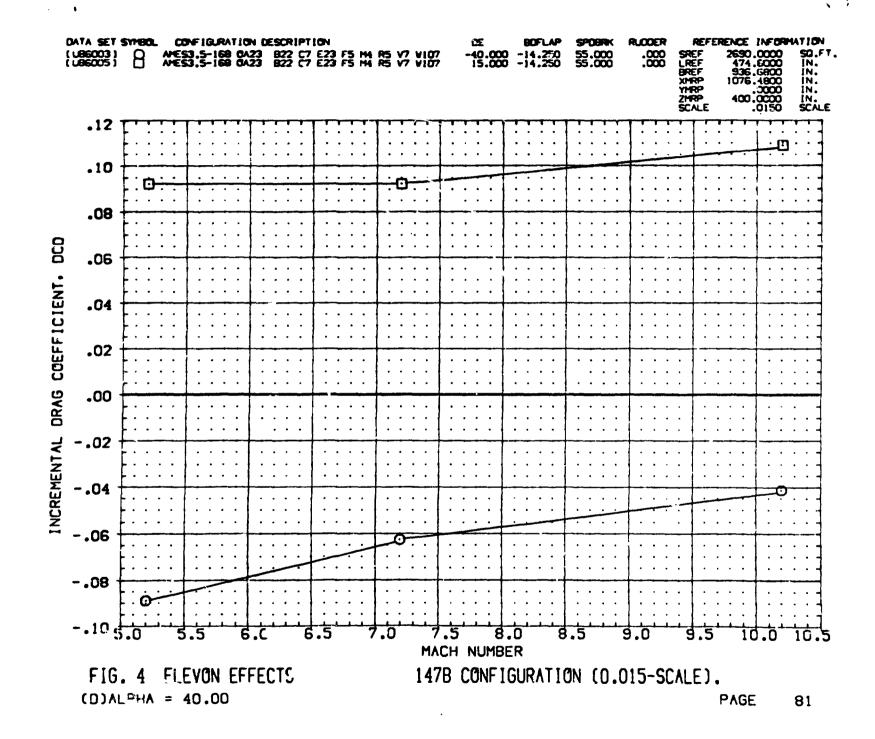


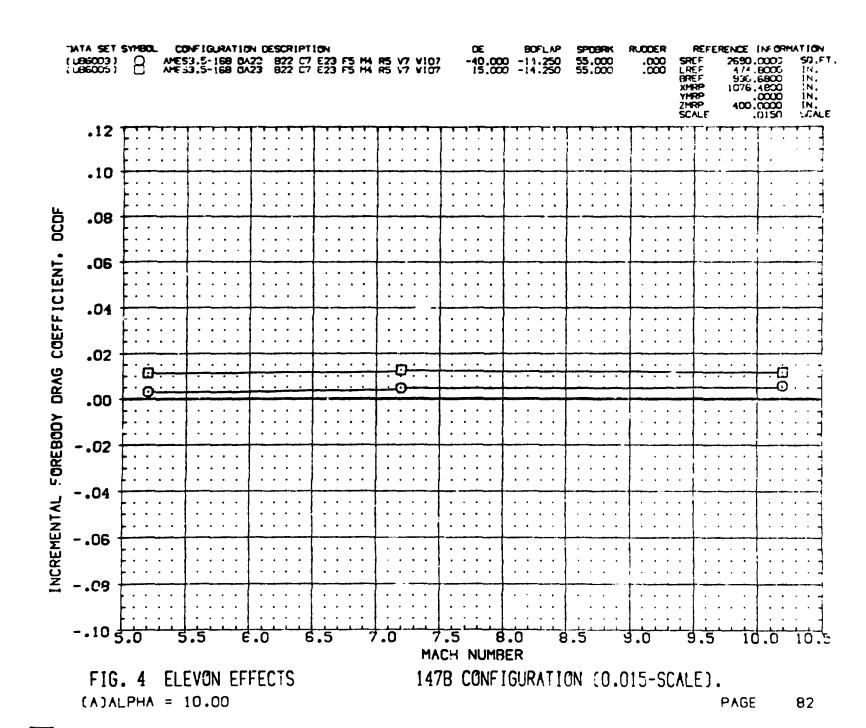


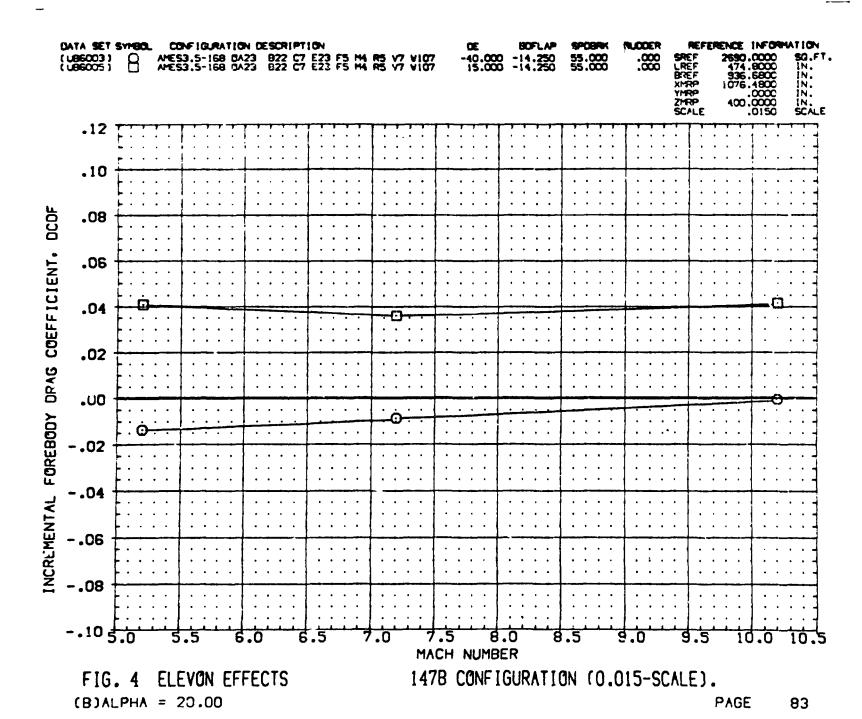


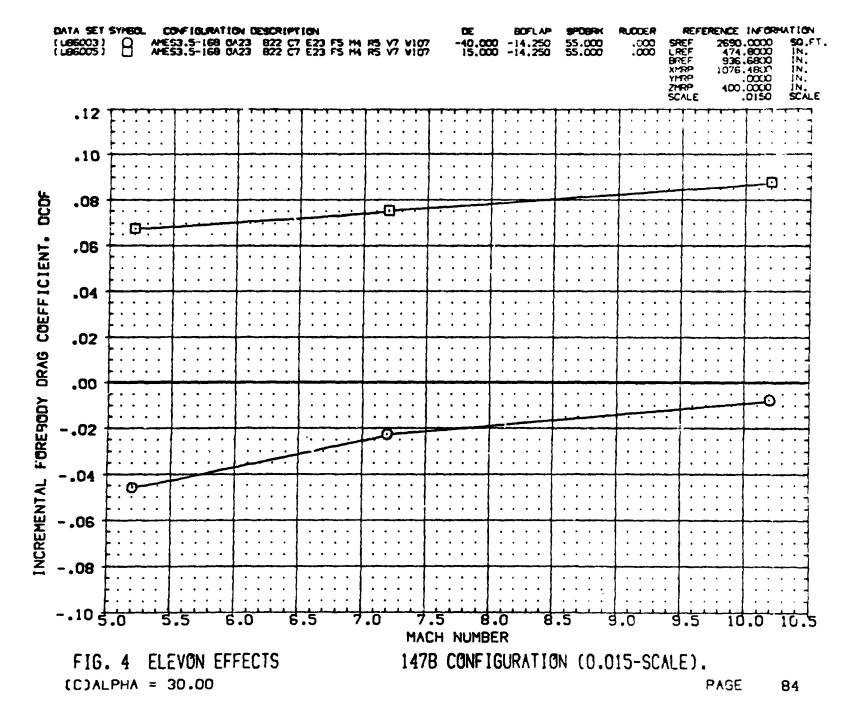


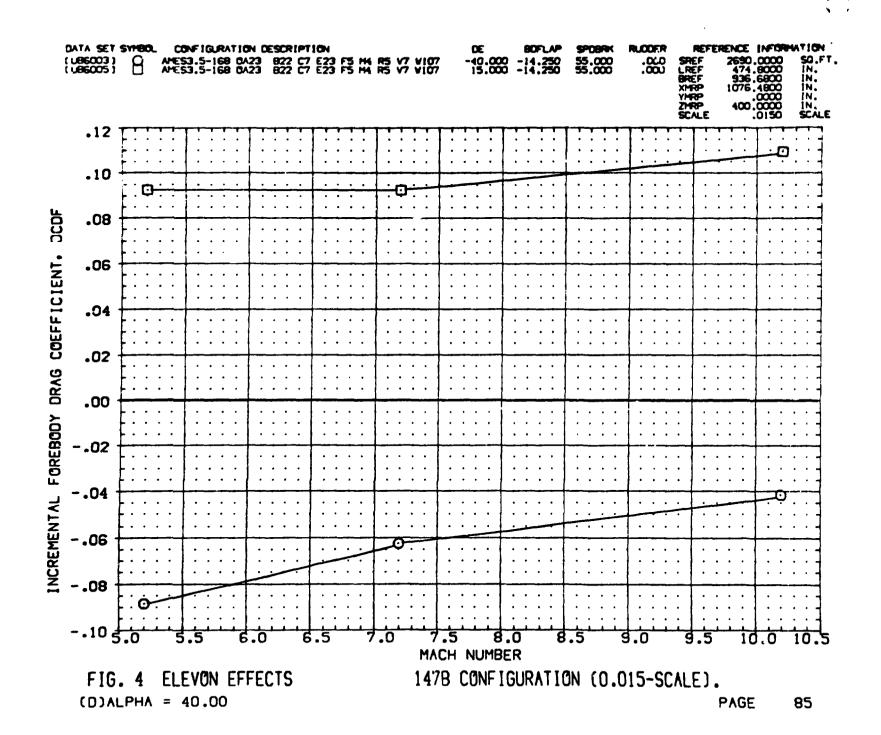


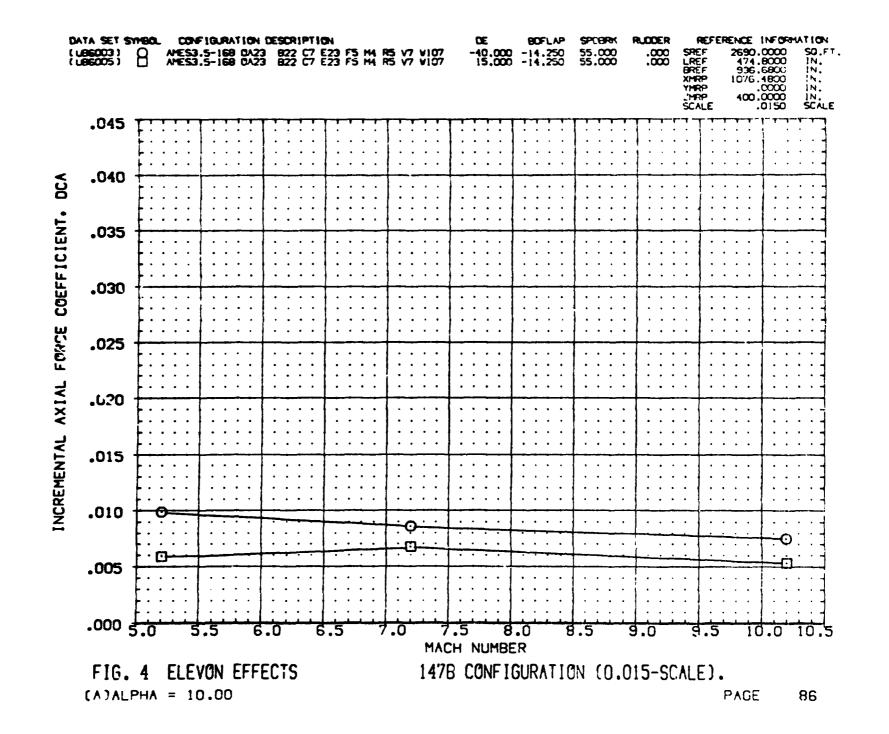


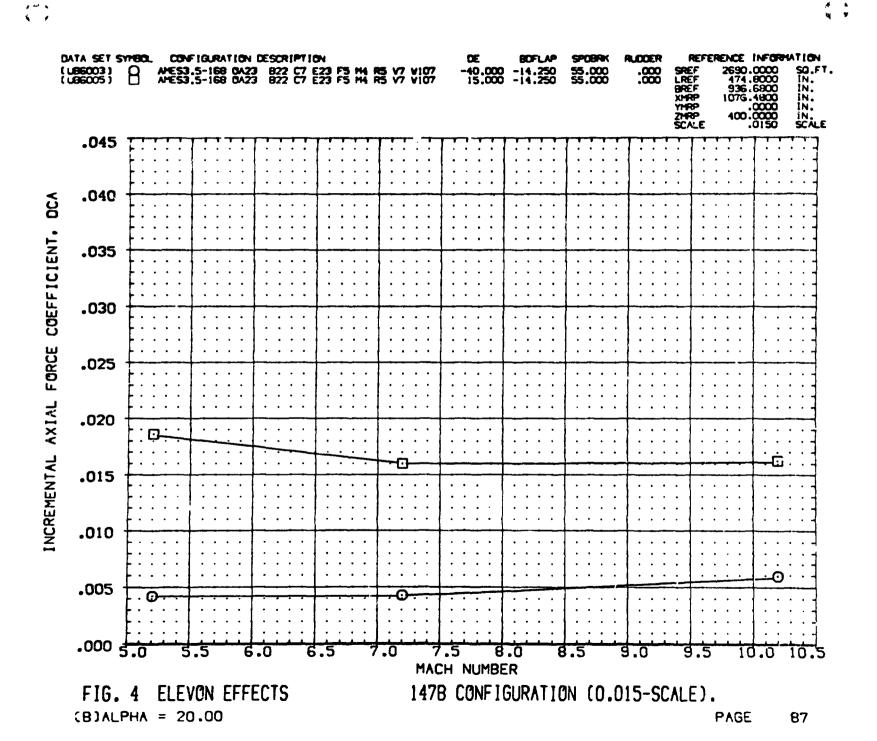




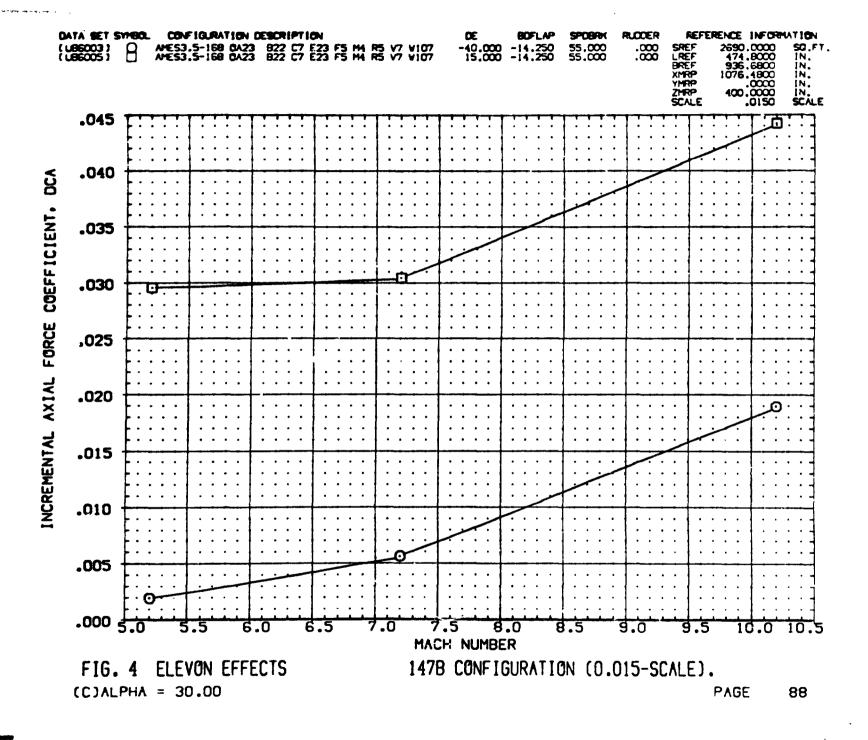


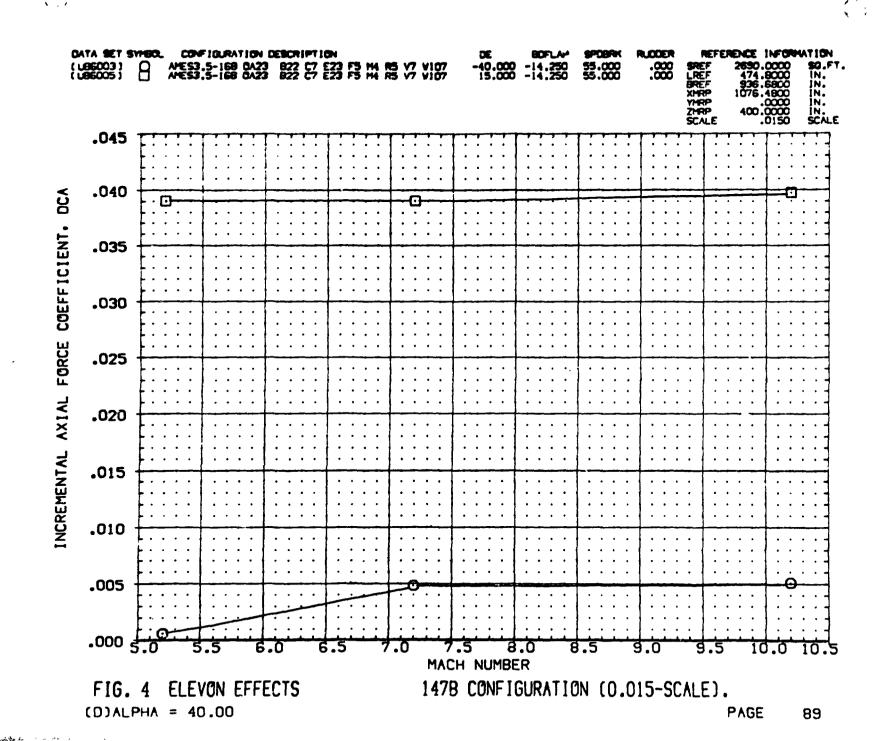




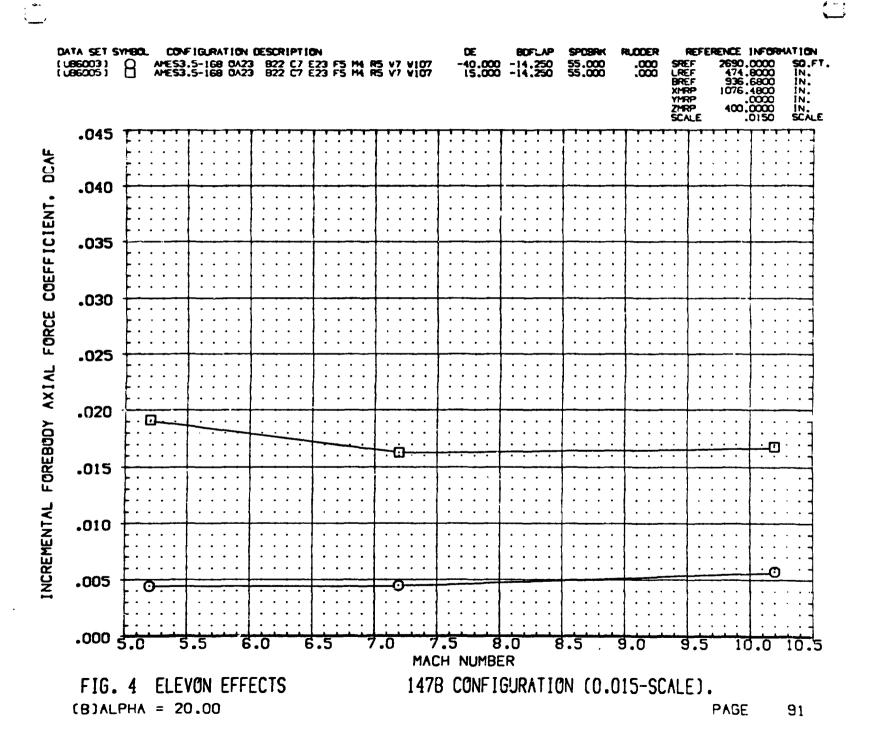


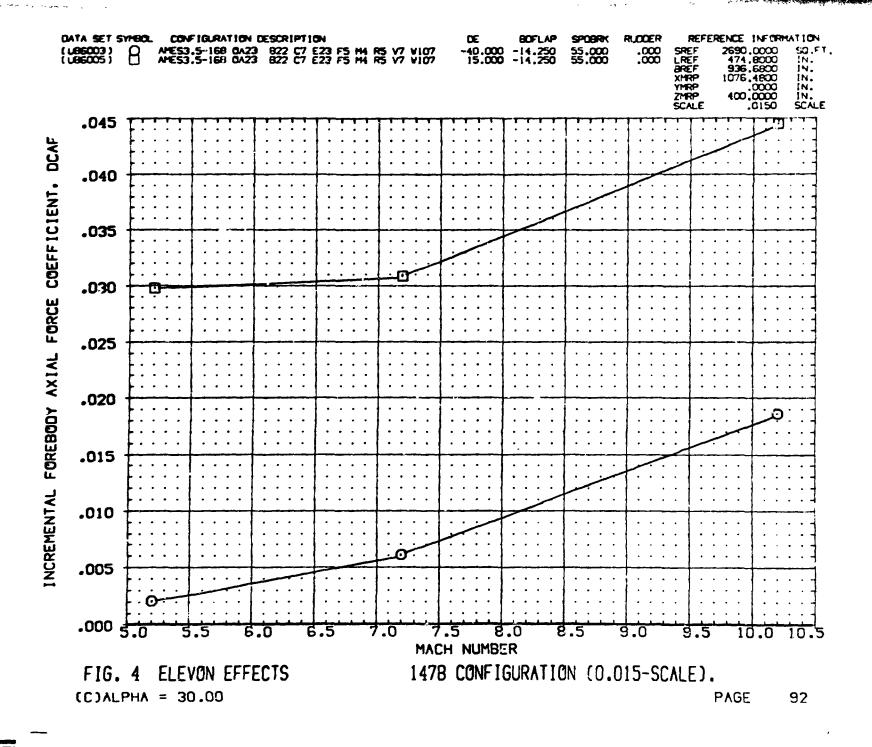
2 4

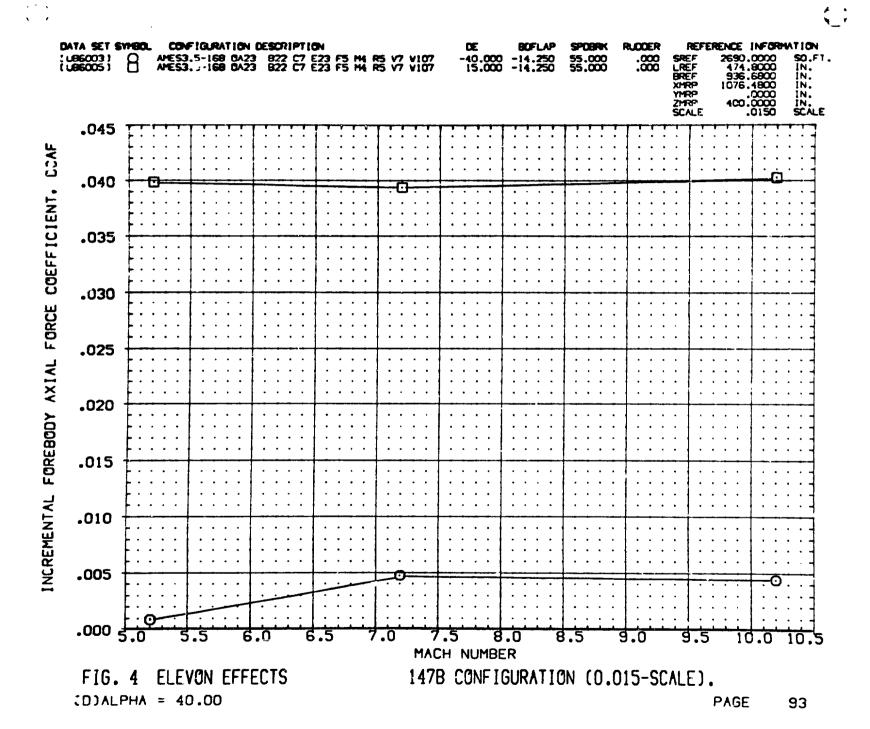


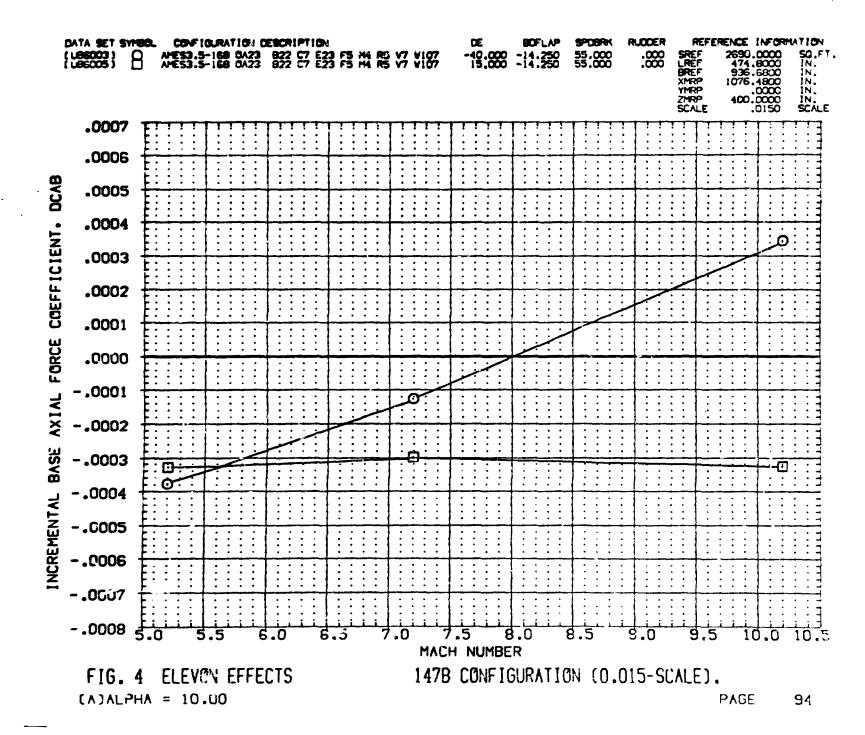


CONFIGURATION DESCRIPTION in. .045 FOREBODY AXIAL FORCE COEFFICIENT, DCAF .040 .035 .030 .025 .020 .015 INCREMENTAL .010 .005 MACH NUMBER FIG. 4 ELEVON EFFECTS 147B CONFIGURATION (0.015-SCALE). (A)ALPHA = 10.00PAGE 90

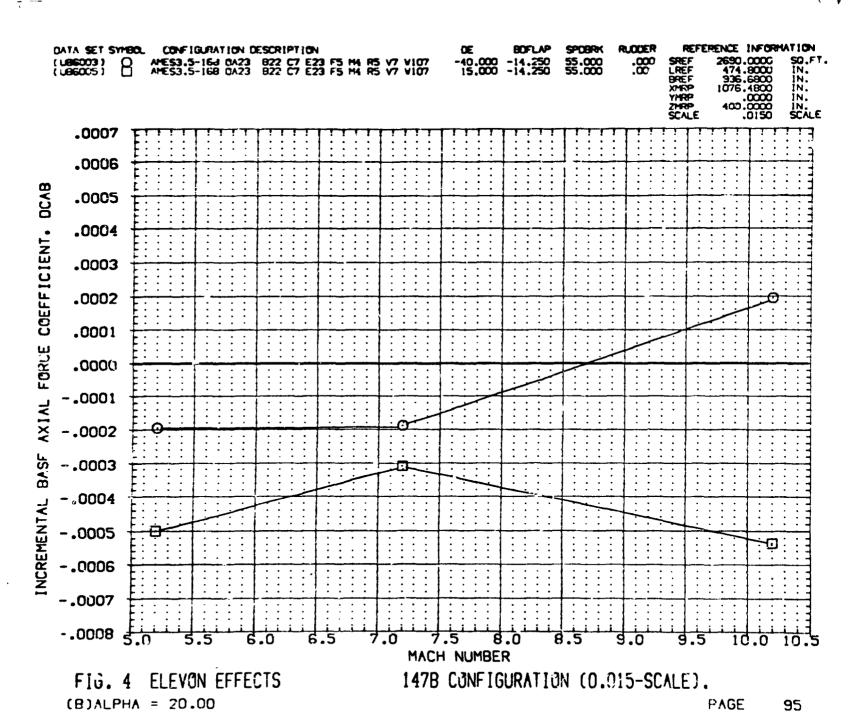








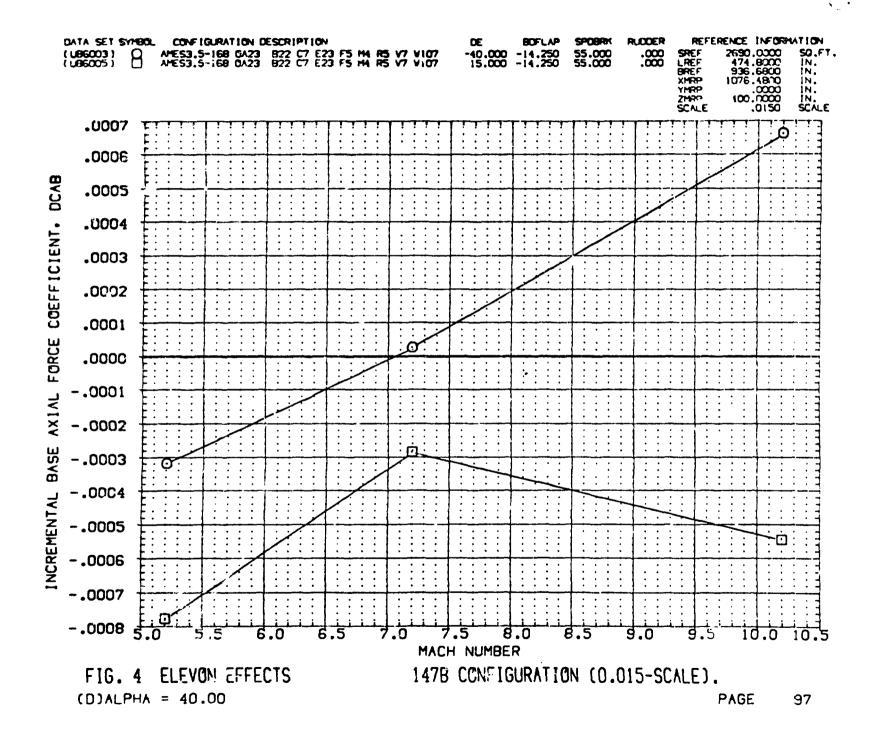


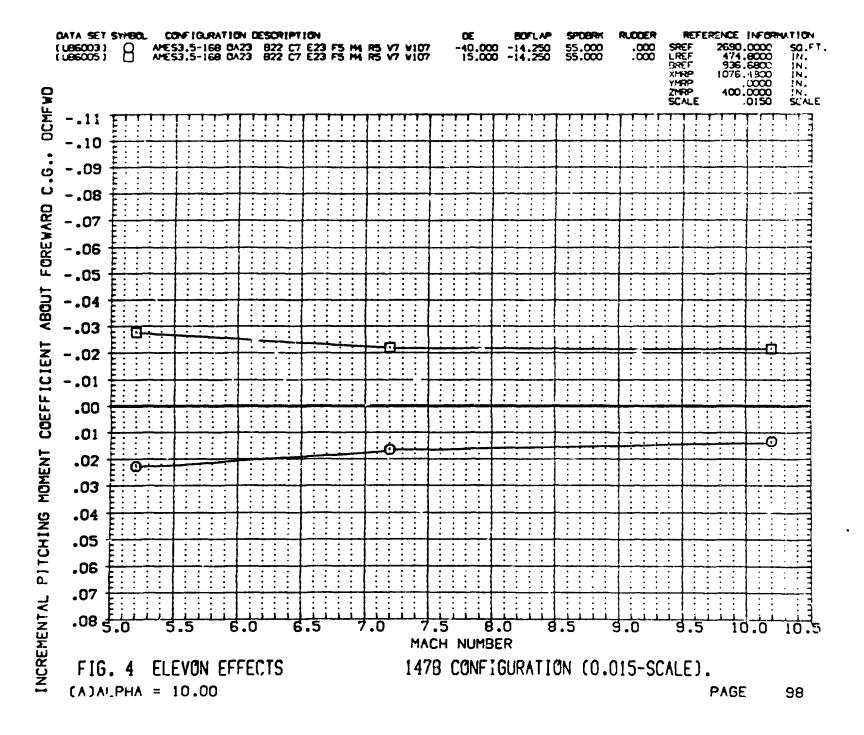


-40.000 15 000 SREF LREF HREF AMRIP YMRP ZMRP SCALE AMES3.5-168 0A23 822 C7 E23 F5 M4 R5 V7 V107 AMES3.3-168 PA23 822 C7 E33 F5 M4 R5 V7 V107 .000 N. SCALE .0007 .0006 OCAB .9005 FORCE COEFFICIENT. .0004 .0003 .0002 1005 .0000 -.0001 -.0002 -.0003 -.0004 INCREMENTAL -.0005 -.0006 -.0007 -.0008 5.0 MACH NUMBER FIG. 4 ELEVON EFFECTS 147B CONFIGURATION (0.015-SCALE). (C)ALPHA = 30.00PAUS 96

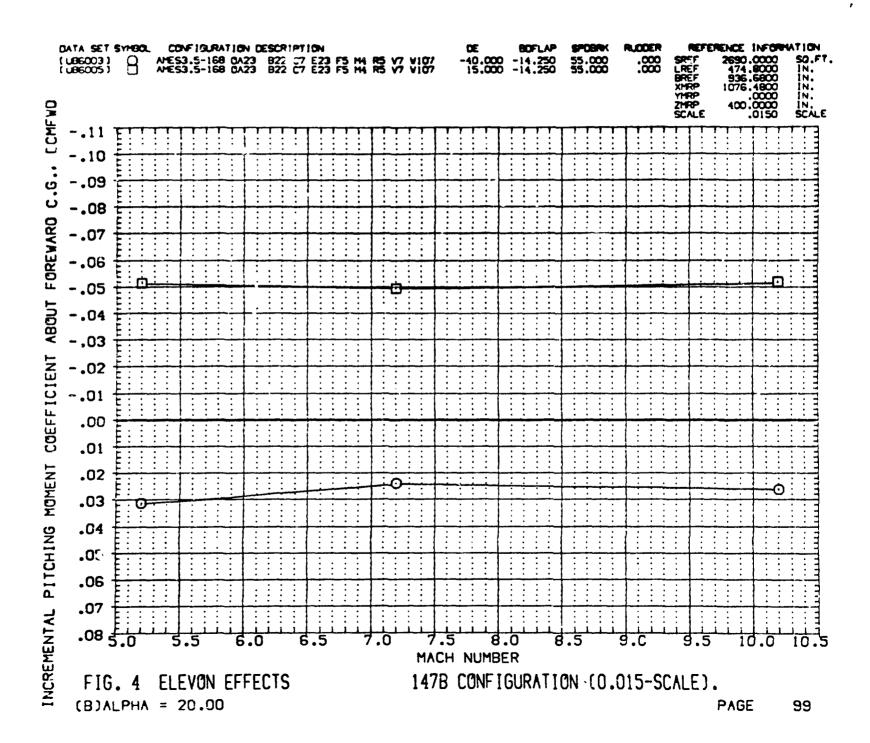
RUDDER

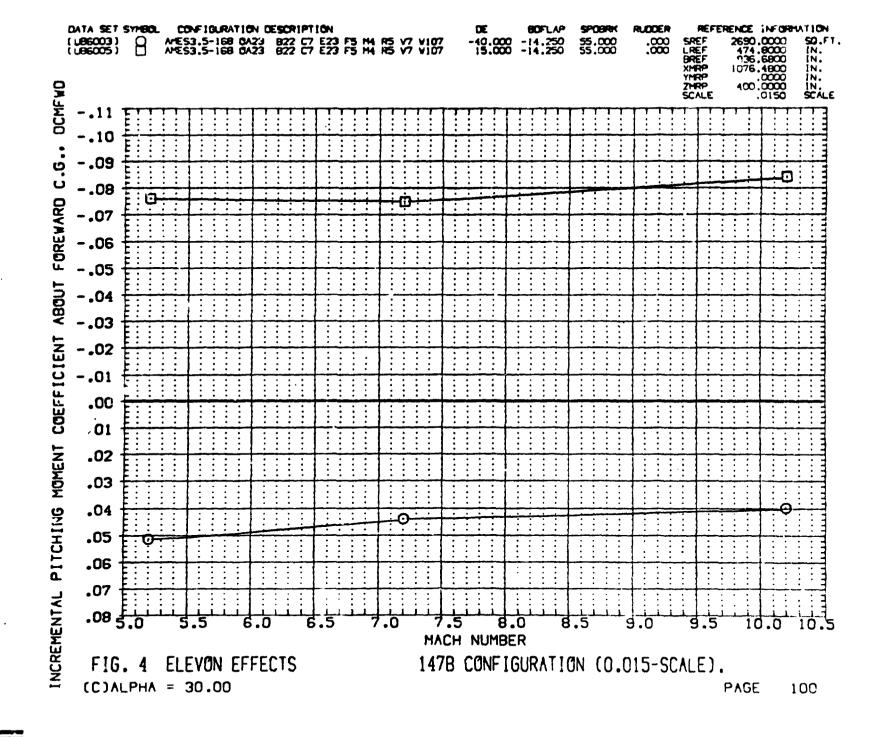
CONFIGURATION DESCRIPTION

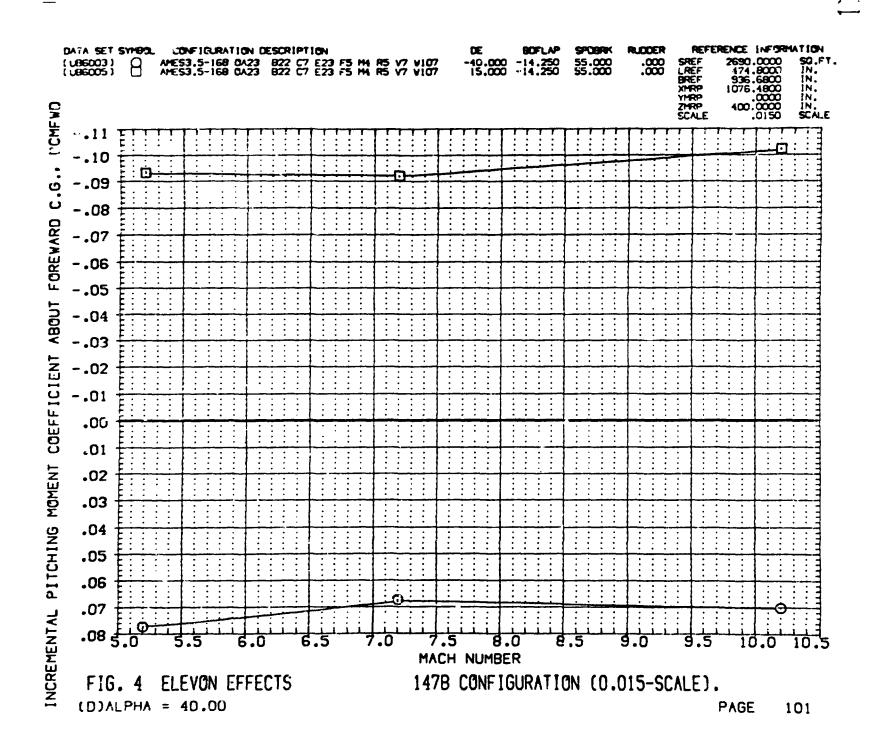


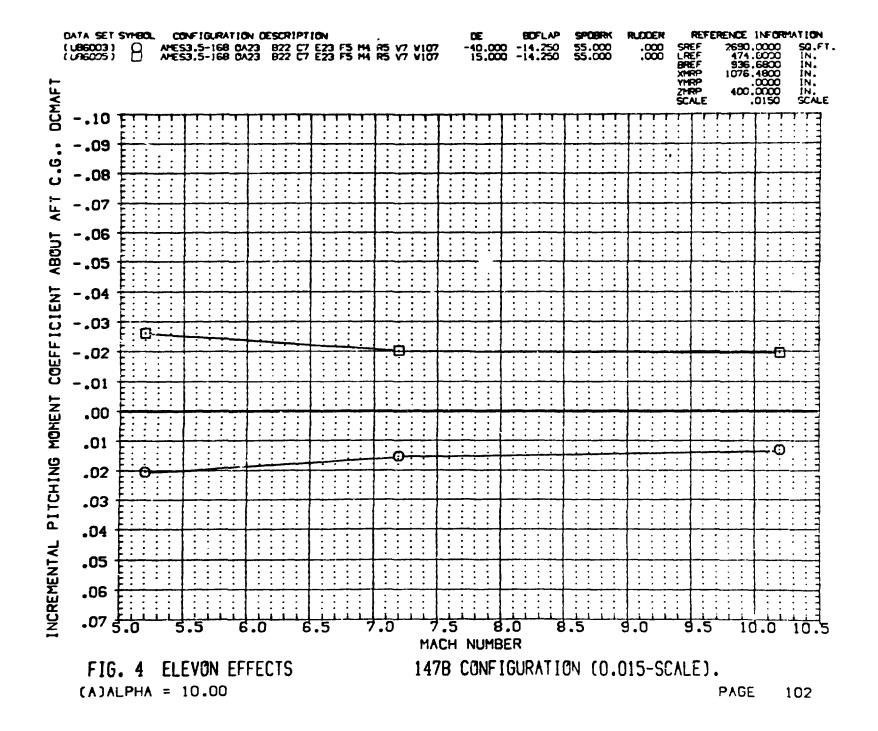


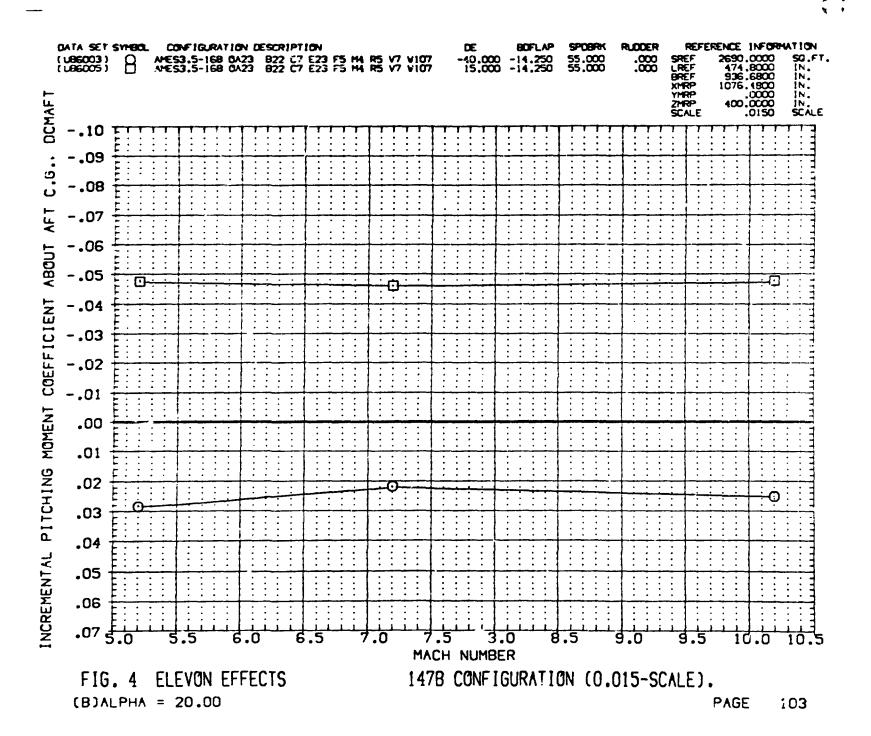


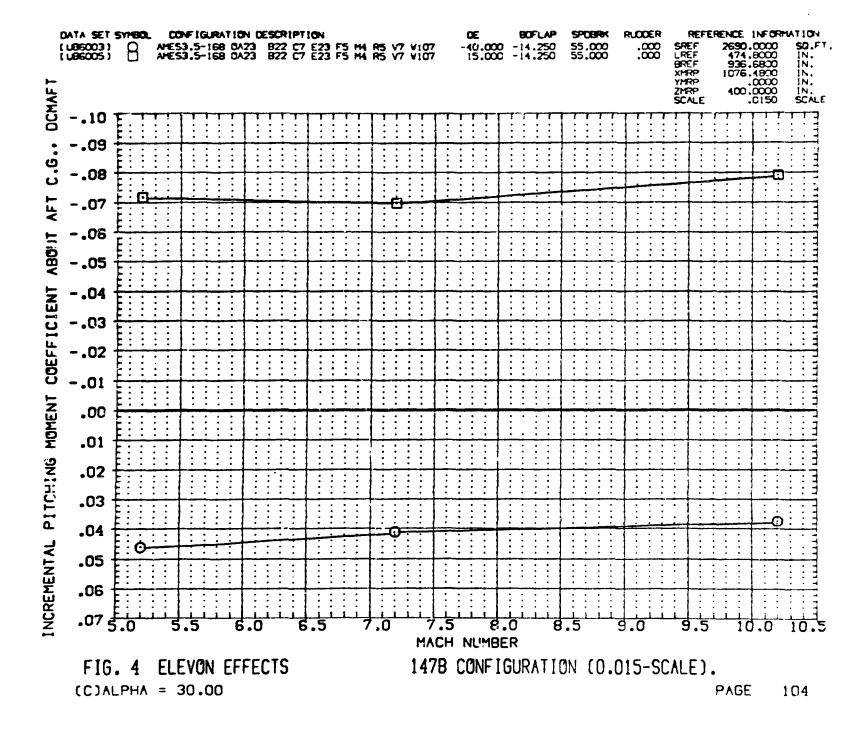


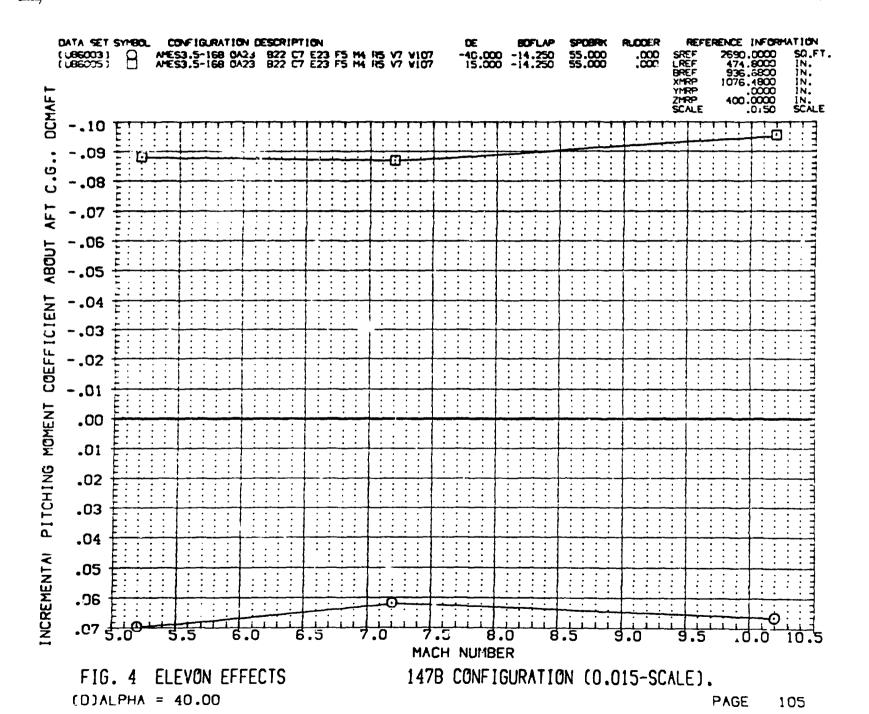


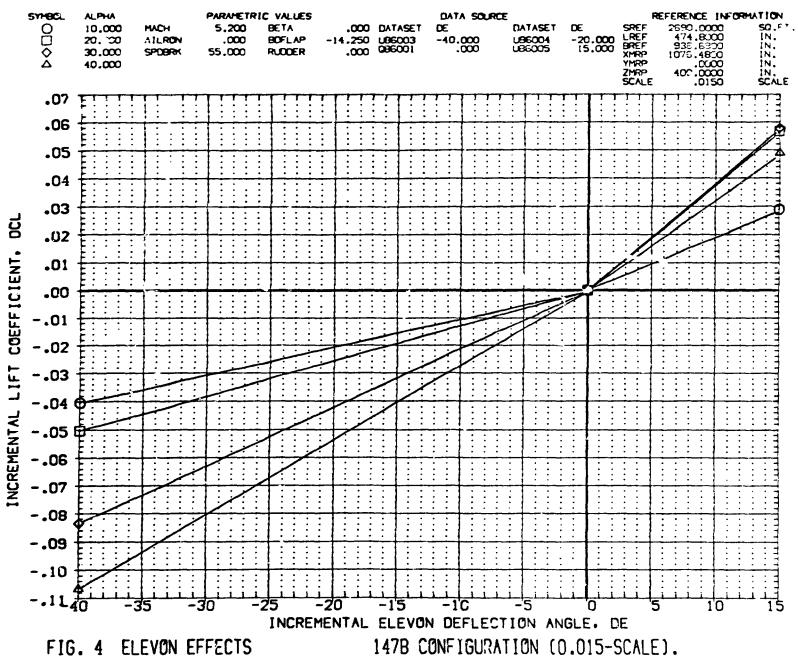






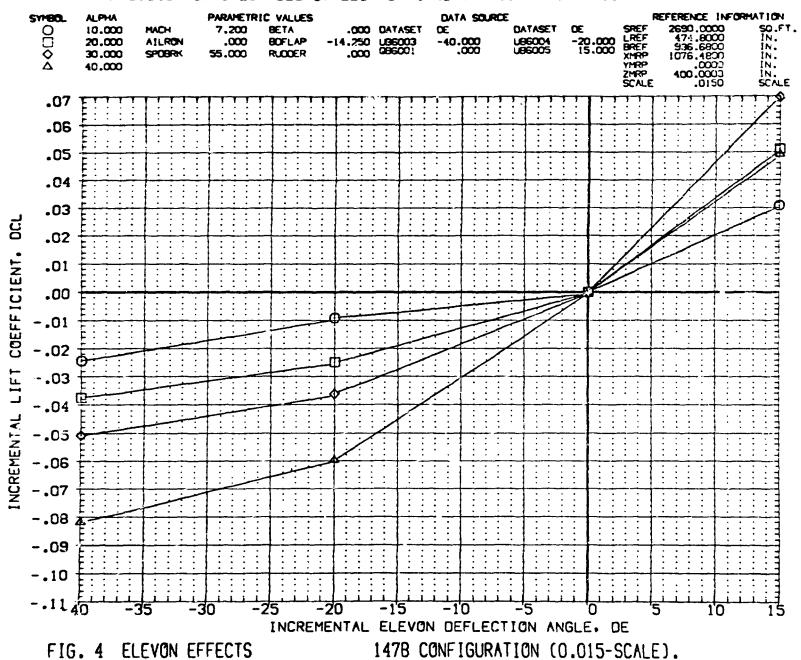






PAGE

106



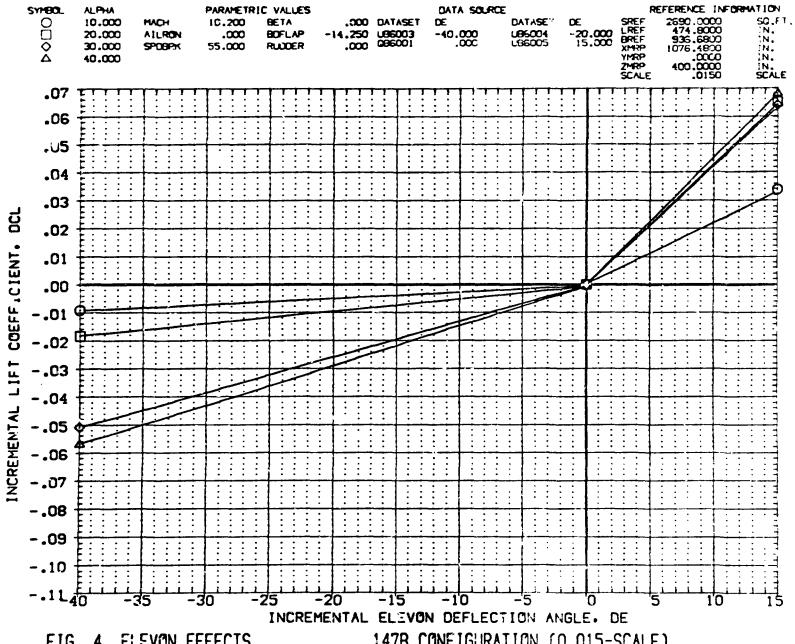


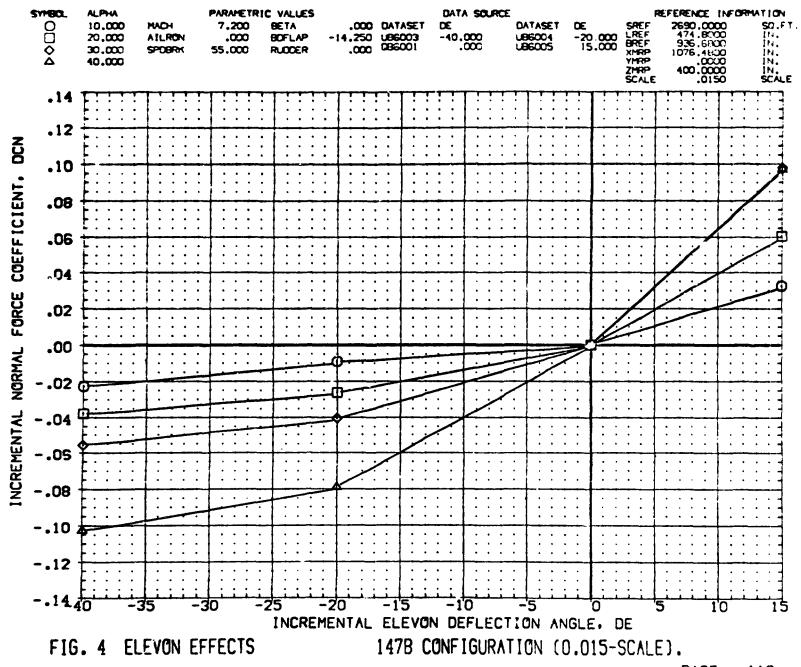
FIG. 4 ELEVON EFFECTS

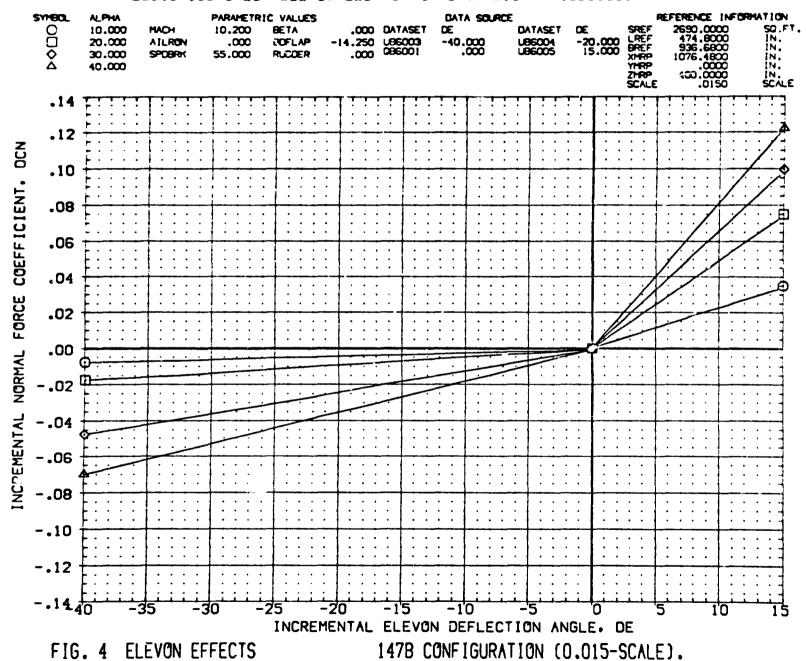
147B CONFIGURATION (0.015-SCALE).

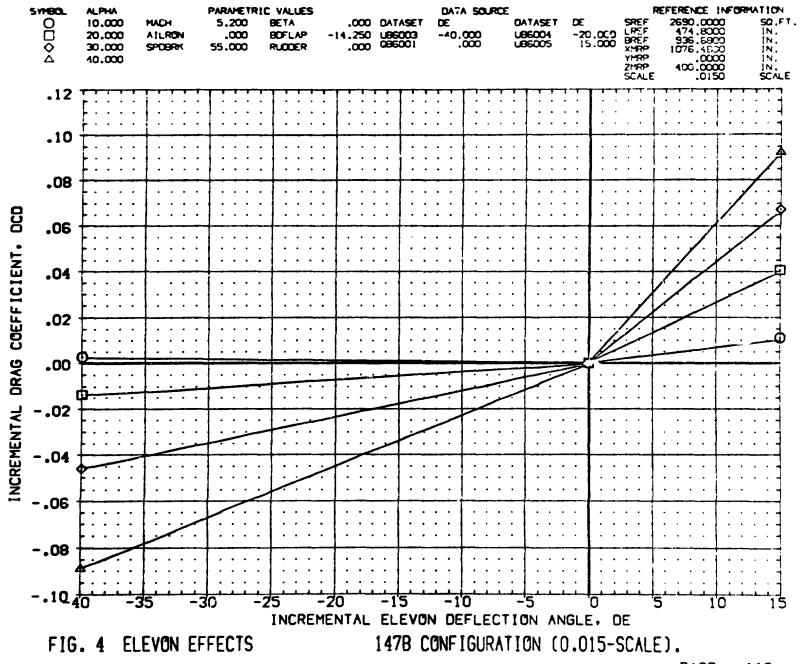
## AMES3.5-168 0A23 822 C7 E23 F5 M4 R5 V7 W107 (DB6003) SYMBOL ALPHA PARAMETRIC VALUES DATA SOURCE REFERENCE INFORMATION SREF LREF BREF XMRP YMRP ZMRP SCALE SO.FT. DATASET U86004 U86005 DE -20,000 15,000 (0.000 HOAM Œ BETA .000 DATASET 20.000 U96003 086001 -40.000 .000 MILPON .000 **BOFLAP** -14.250 77 30.000 SPOURK 55.000 PUCCER .000 400.0000 0150 SCALE 40.000 .12 DCN DCN .10 INCREMENTAL NORMAL FORCE COEFFICIEN, .08 .06 .04 .02 .00 -.02 -.04 -.06 -.08 -.10 -.12 INCREMENTAL ELEVON DEFLECTION ANGLE. DE

147B CONFIGURATION (0.015-SCALE).

FIG. 4 ELEVON EFFECTS







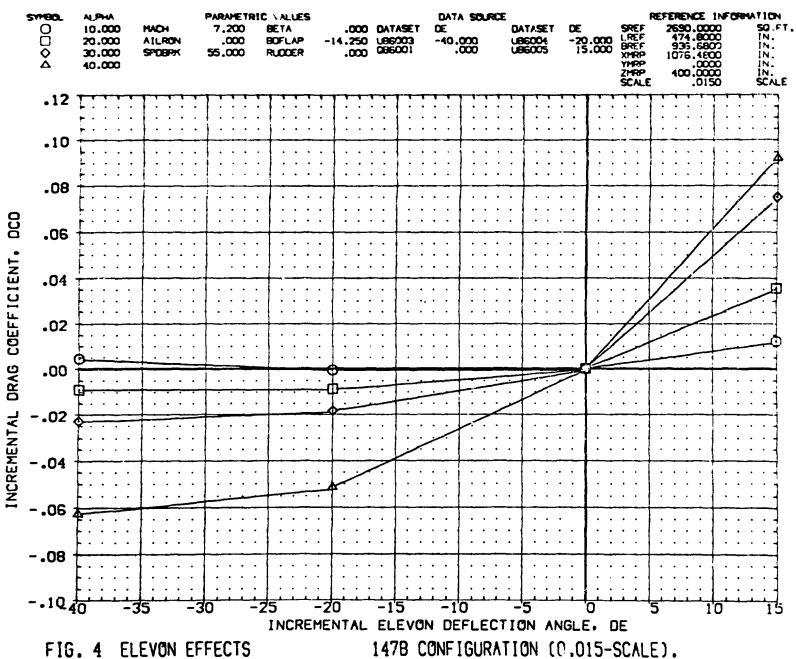
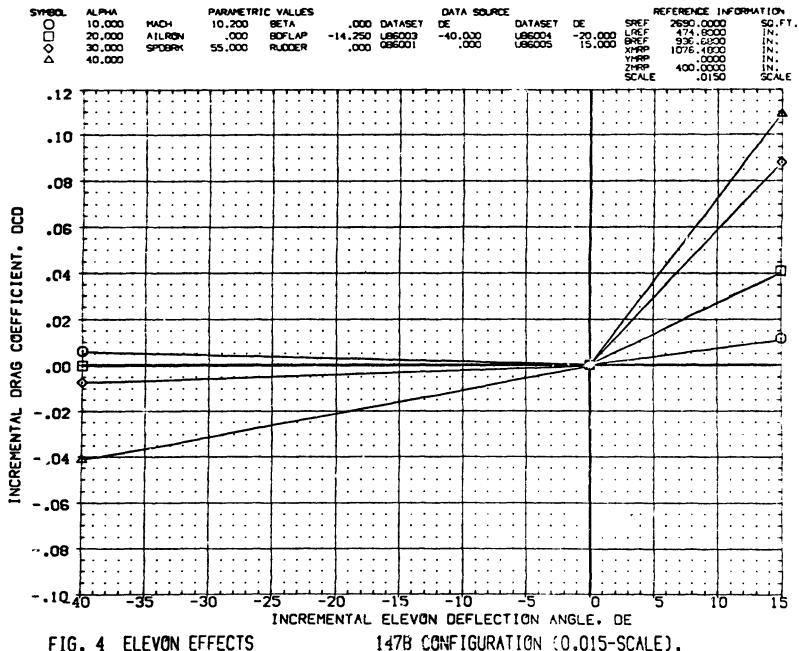


FIG. 4 ELEVON EFFECTS

- I The second section in the second



147B CONFIGURATION (0.015-SCALE).



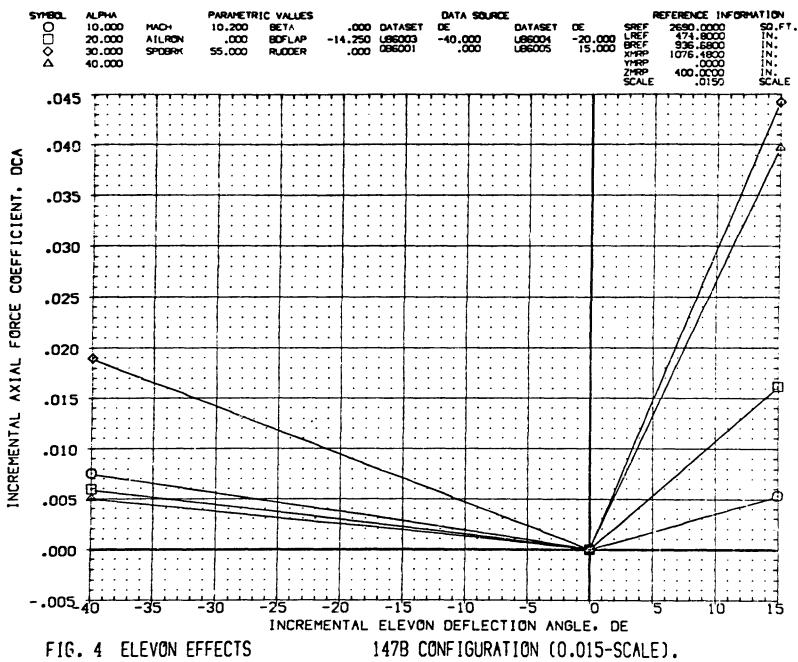
### AMES3.5-168 0A23 B22 C7 E23 F5 M4 R5 V7 W107 (UB6003) SYPBOL ALPHA PARAMETRIC VALUES DATA SOURCE REFERENCE INFORMATION SREF LREF BREF XMRP YMRP ZMRP SCALE 2690.0000 474.800.3 936.680.1 1076.4800 .0000 400.0000 .0150 0000 SQ.FT. 10.000 5.200 Œ DATASET DE HADH BETA .000 DATASET U86004 U86005 -20.000 15.000 -40.000 20,000 .000 BOFLAP AILRON -14.250 30.000 RUCCER .000 986001 SPOBRK 55.000 IN. IN. SCALE 40,000 .045 .040 **۷** INCREMENTAL AXIAL FORCE COEFFICIENT. .035 .030 .025 .020 .015 .010 .005 .000 -.005<sub>40</sub> -20 INCREMENTAL ELEVON DEFLECTION ANGLE. DE 147B CONFIGURATION (0.015-SCALE). FIG. 4 ELEVON EFFECTS

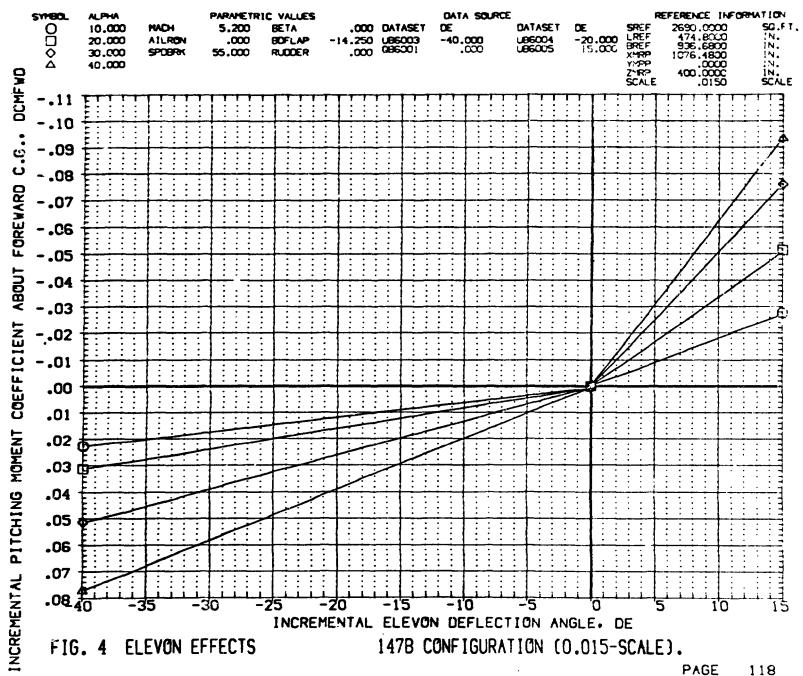
PAGE

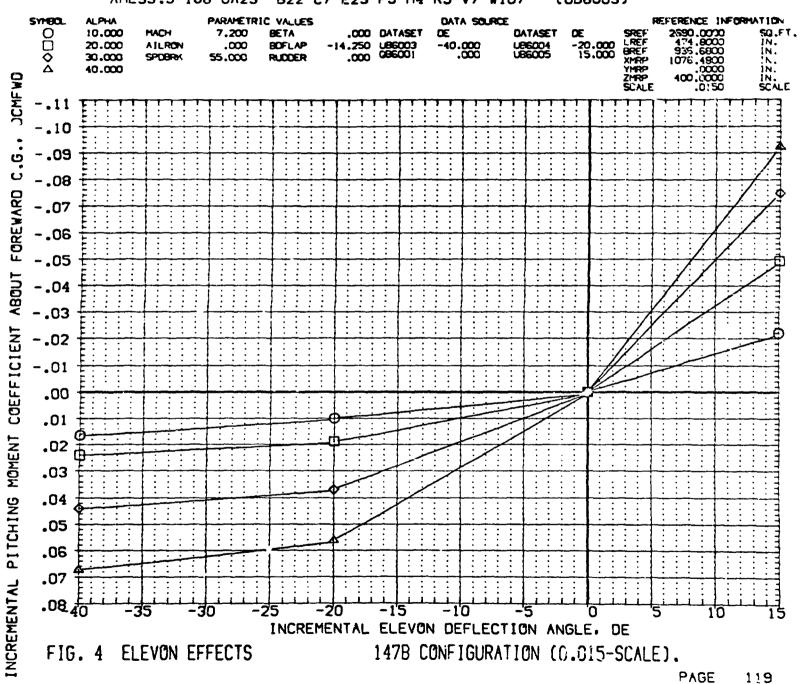
115

## AMES3.5-168 0A23 B22 C7 E23 F5 M4 R5 V7 W107 (UB6003) SYMBOL ALPHA PARAMETRIC VALUES DATA SOURCE REFERENCE INFORMATION SREF REF BREF XMRP YMRP ZMRP SCALE SO.FT. 10,000 BETA Œ DATASET DE 2690,0000 HACH 7,200 .000 DATASET 474 .8000 936 .6800 -14.250 UB6003 -40.00C -20.000 15.000 AILRON UB6004 UB6005 20,000 .000 BOFLAP 30,000 SPOBRK 55.000 RUCCER .000 1076.4800 0000 400.0000 .0150 40.000 .045 .040 **۷** INCREMENTAL AXIAL FORCE COEFFICIENT. .035 .030 .025 .020 .015 .010 .005 .000 INCREMENTAL ELEVON DEFLECTION ANGLE. DE FIG. 4 ELEVON EFFECTS 147B CONFIGURATION (0.015-SCALE).

1 # 4



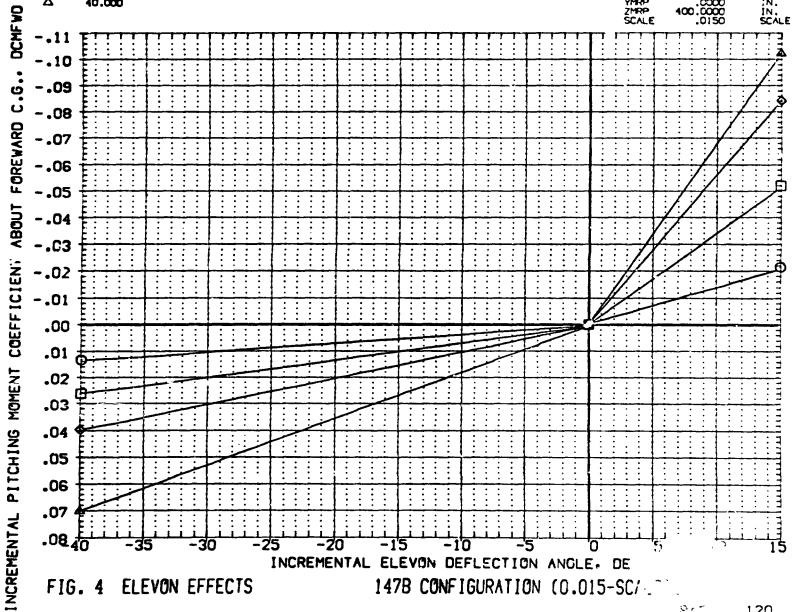




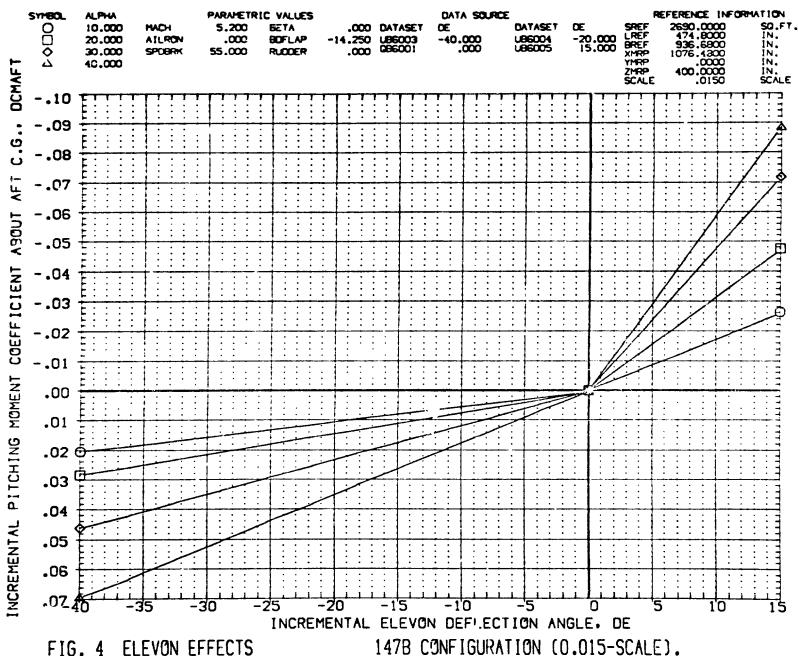
#### AMES3.5-168 0A23 B22 C7 E23 F5 M4 R5 V7 W107 (NB6003) DATA SOURCE ALPHA PARAMETRIC VILLES REFERENCE INFORMATION 10.000 MACH 10.200 BE)" .000 DATASET Œ DATASET Œ 2690,0000 SQ.FT. LREF BREF XMRP ĬŇ. -40.000 .000 UB6004 UB6005 -20.000 15.000 20.000 AILRON .000 **BOFLAP** UR6003 -14.250 936.6800 1076.4800 IN. 086001 30.000 SP08RK 55.000 RUCCER iN. 40.000 YMRP . . . . . N. ZMRP SCALE IN. SCALE

SYMBOL

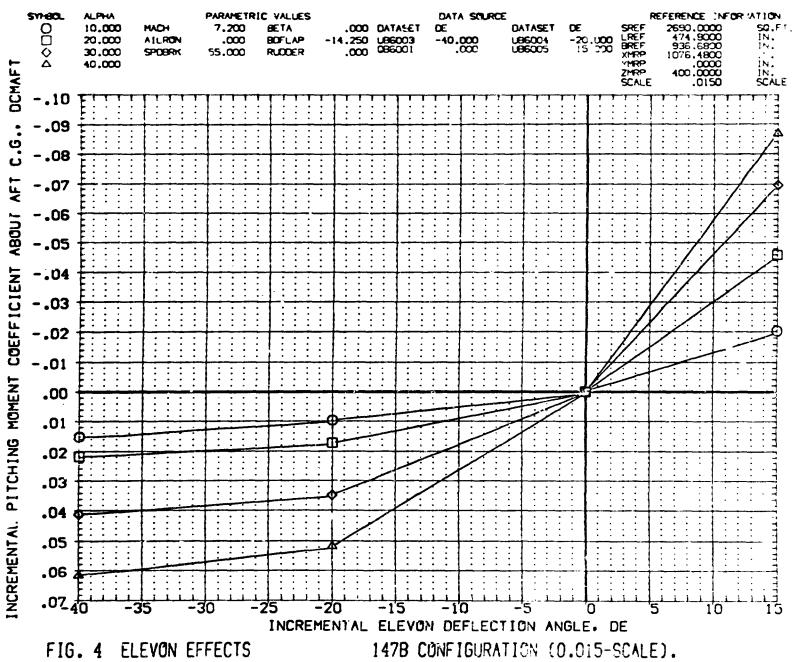
000

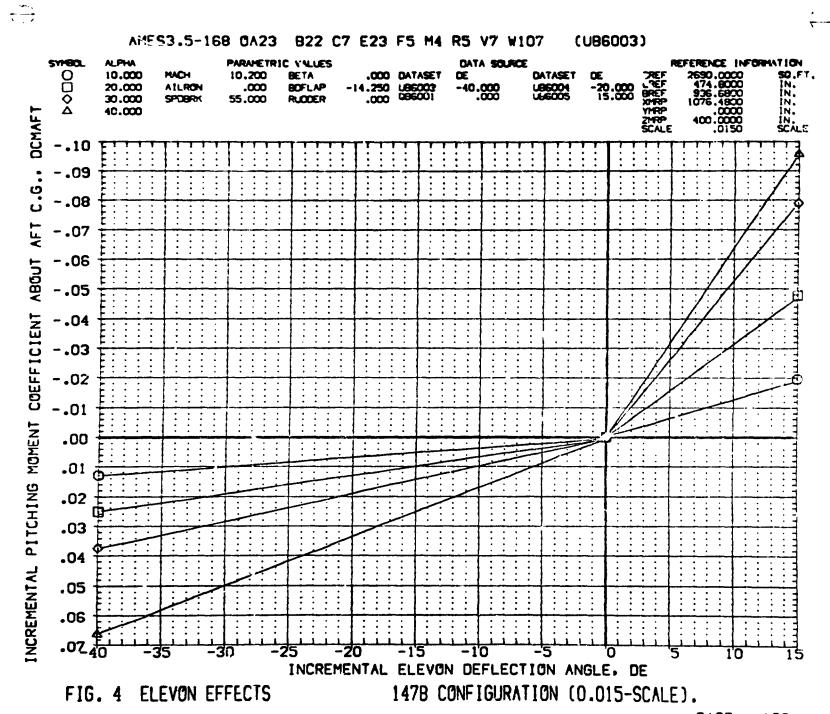


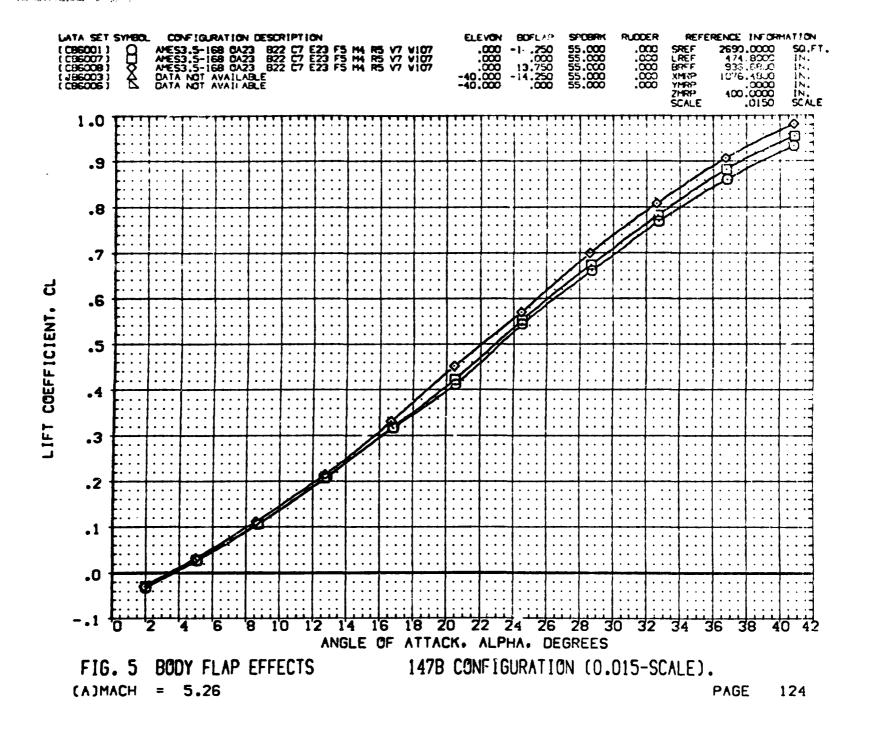
\* /

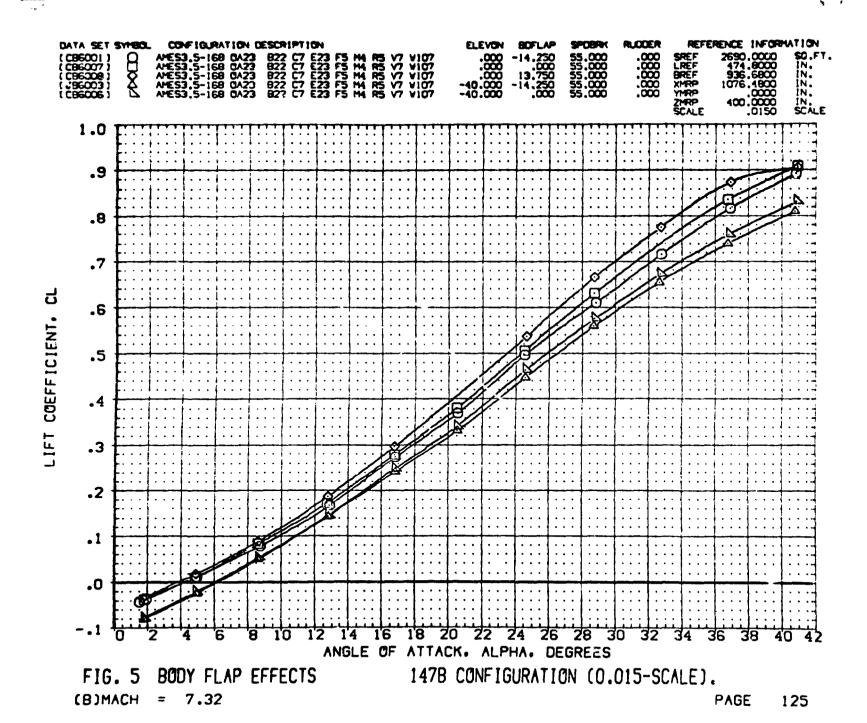


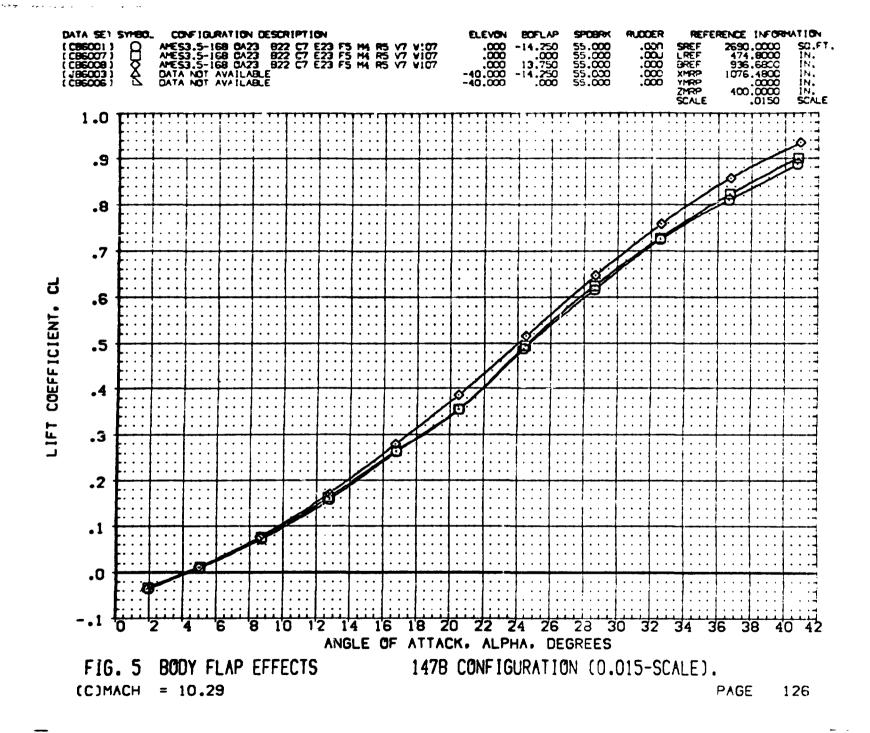
147B CONFIGURATION (0.015-SCALE).

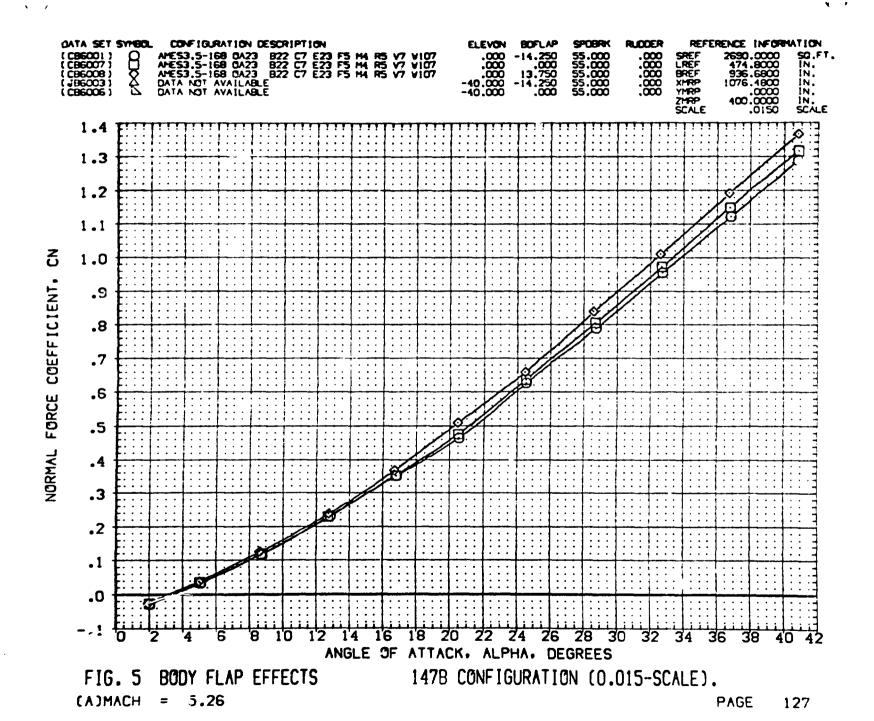


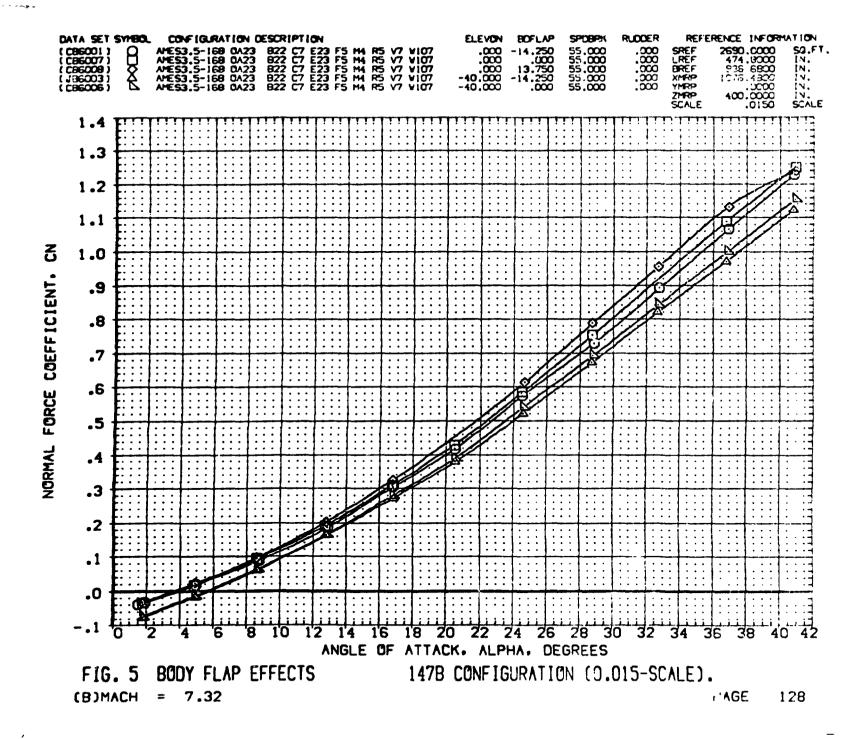


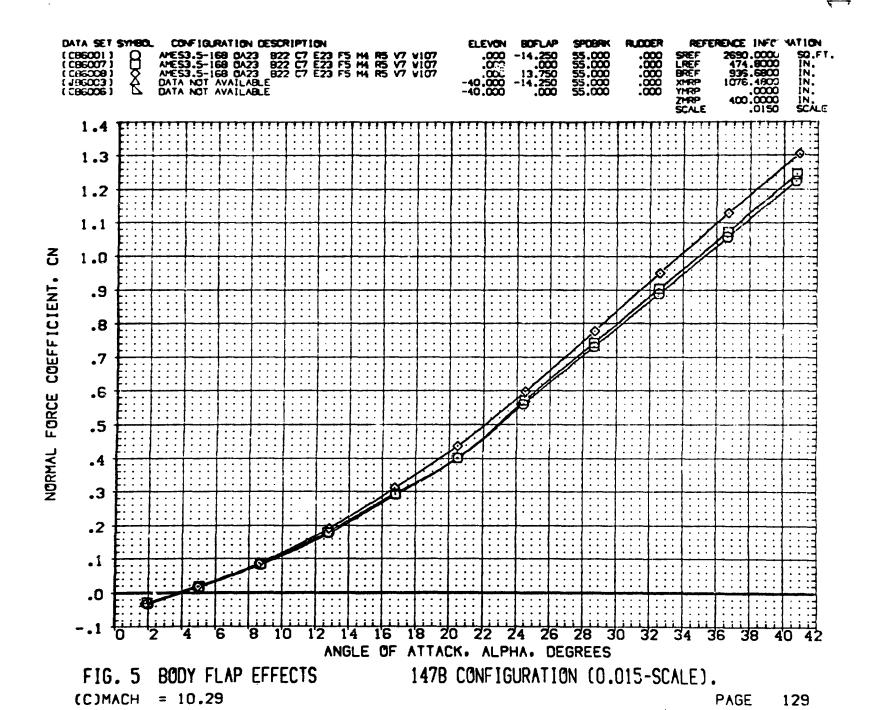


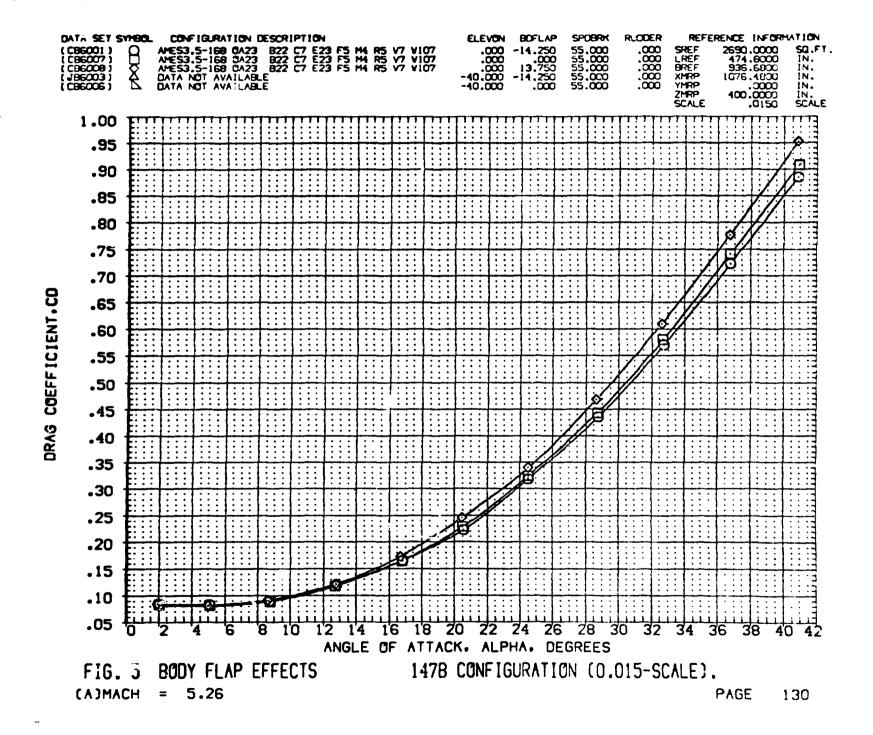


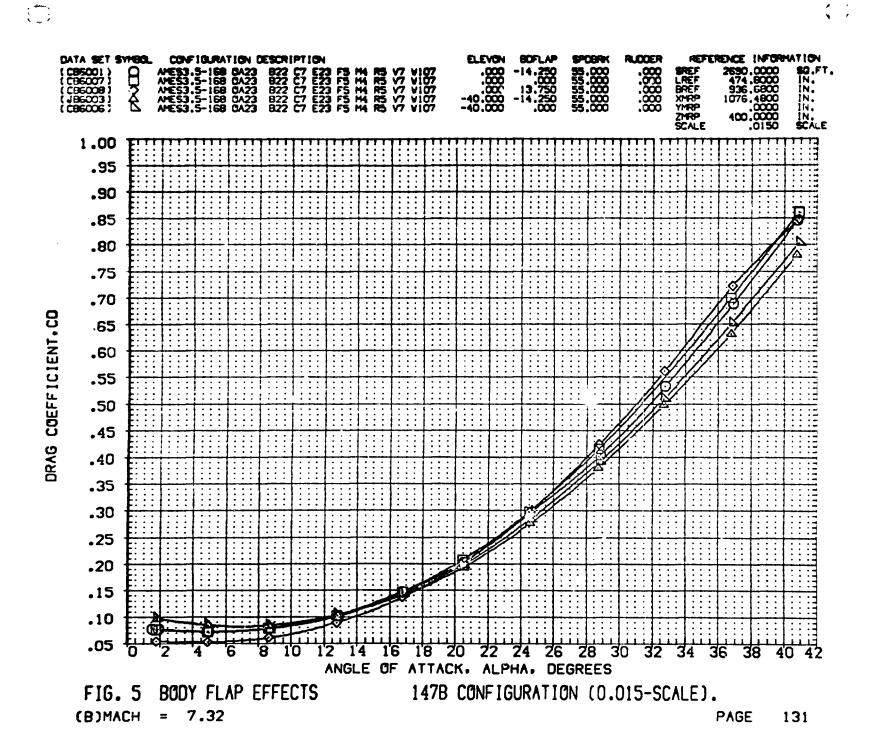


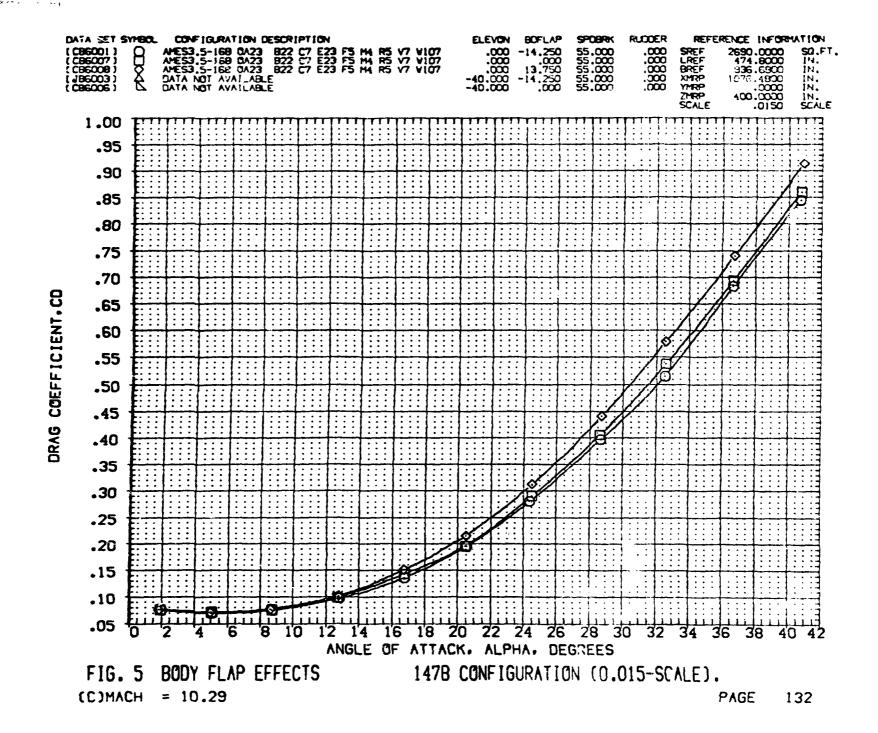


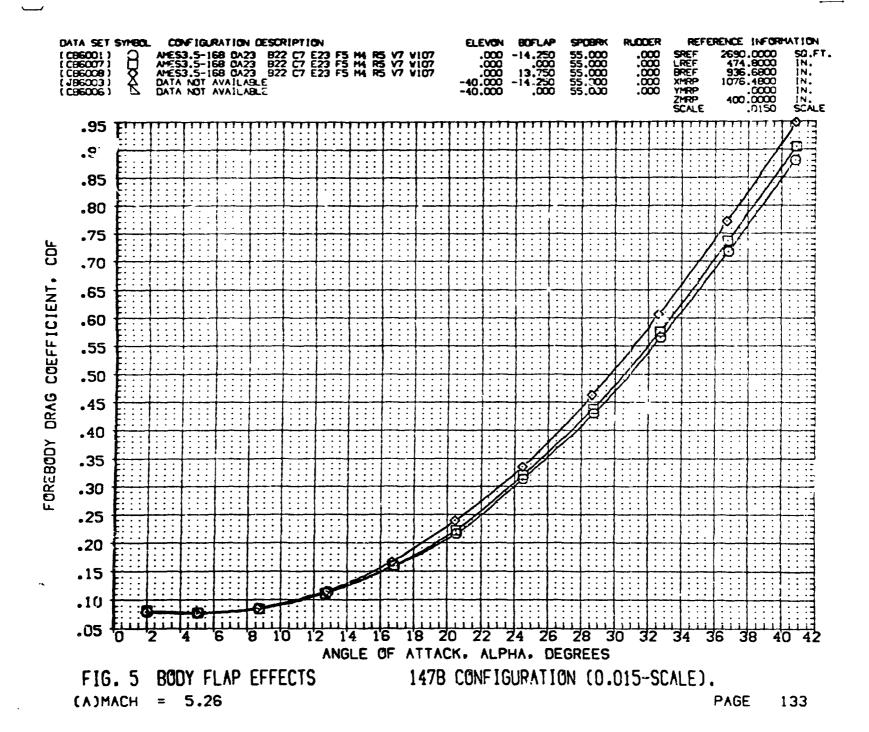


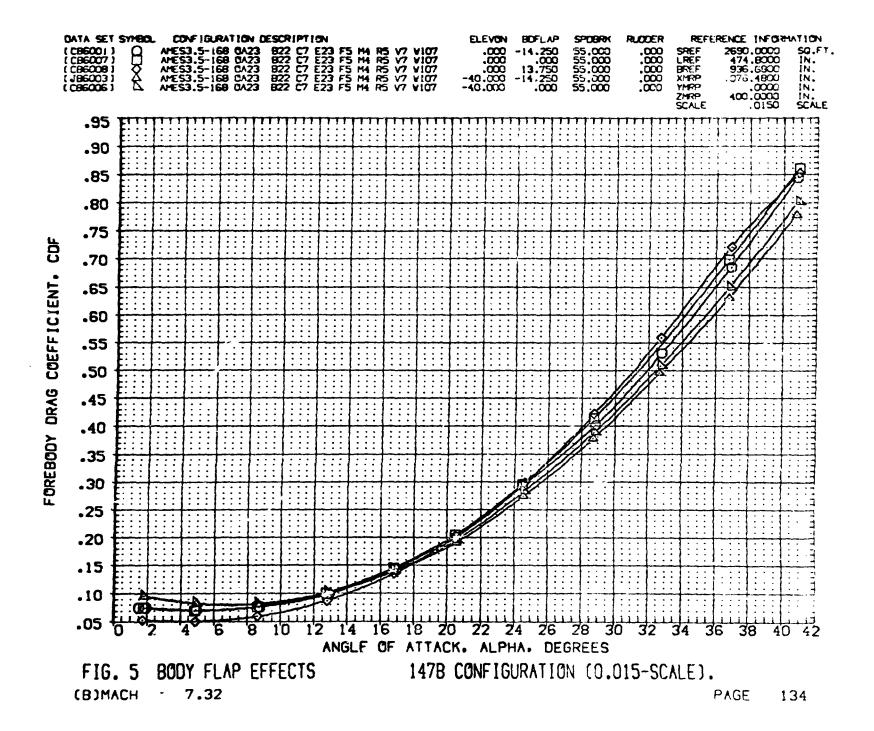


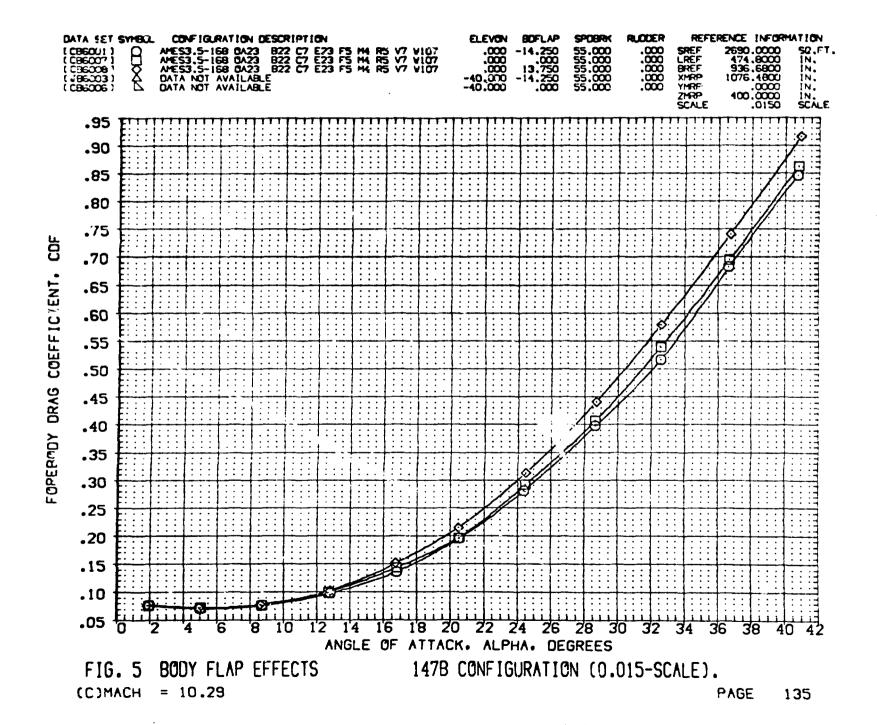


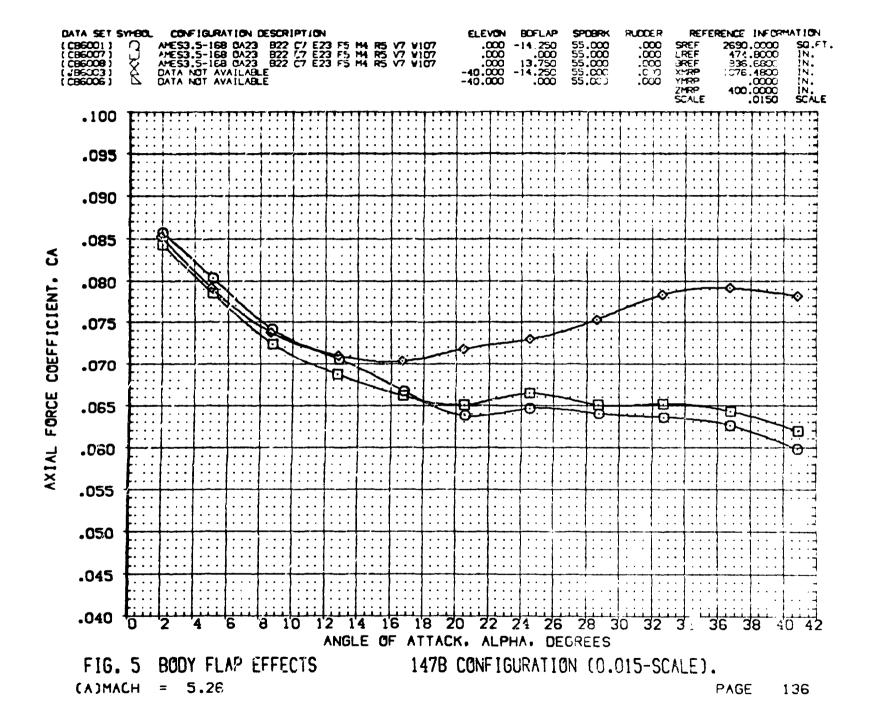


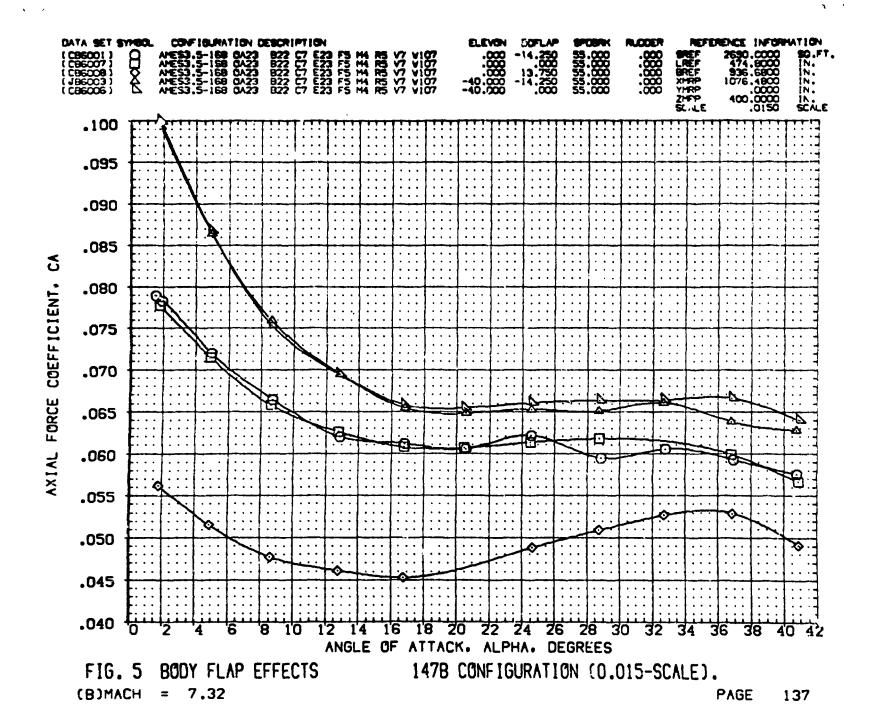


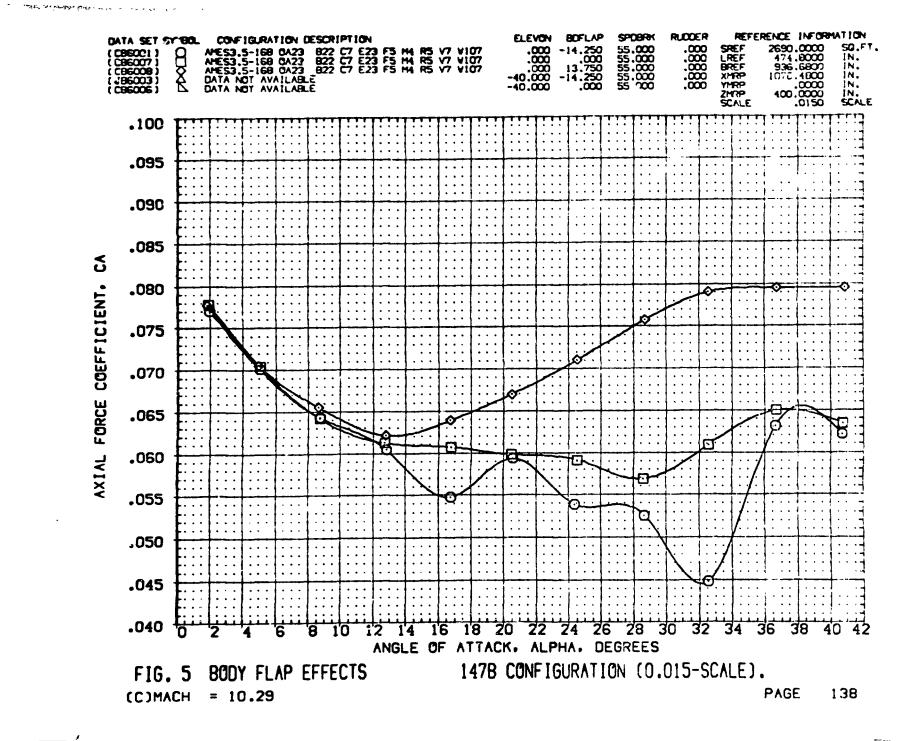




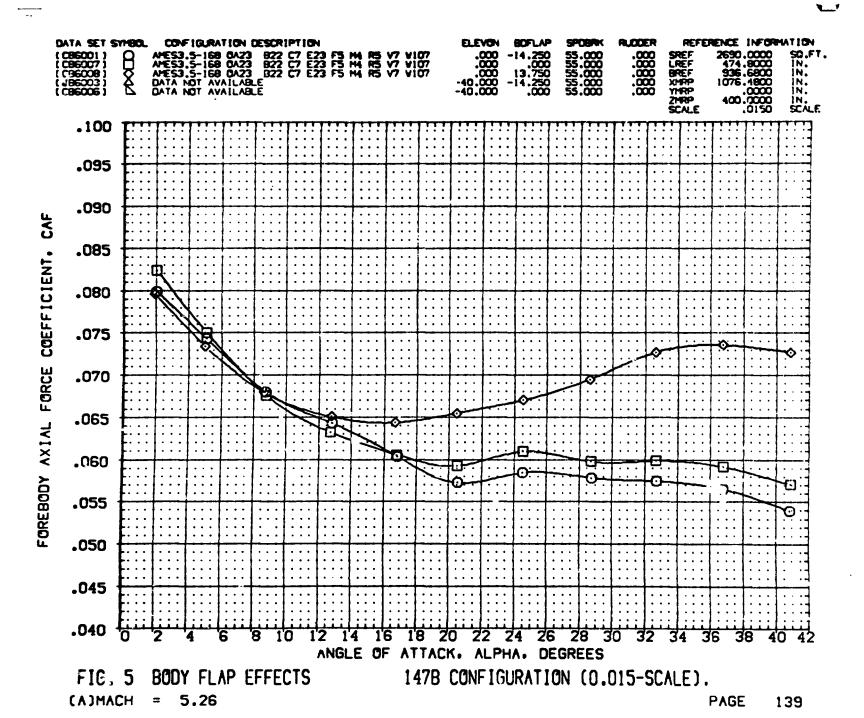


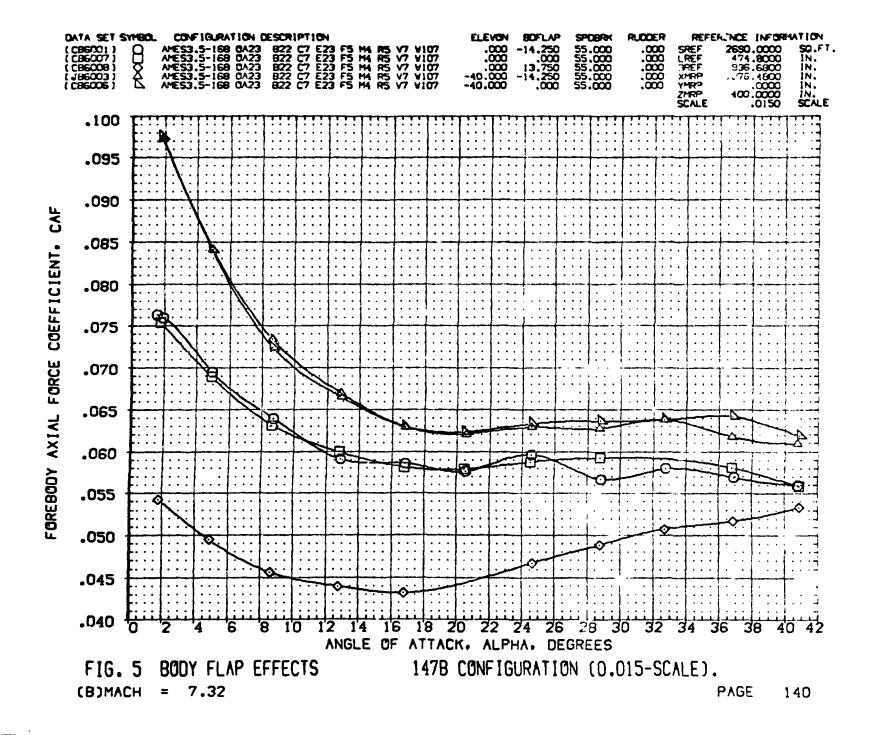


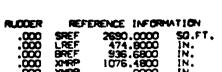


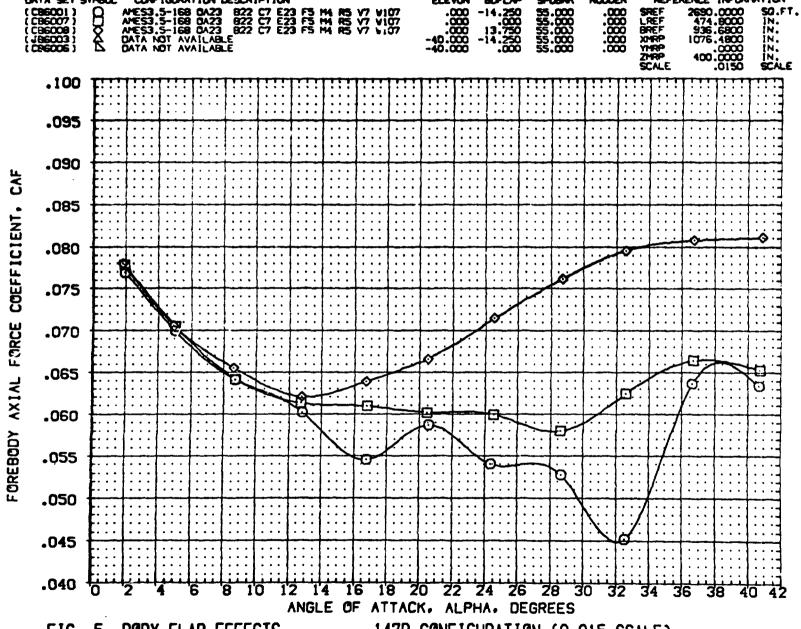


. .









ELEVON

BOFLAP

SPOBAK

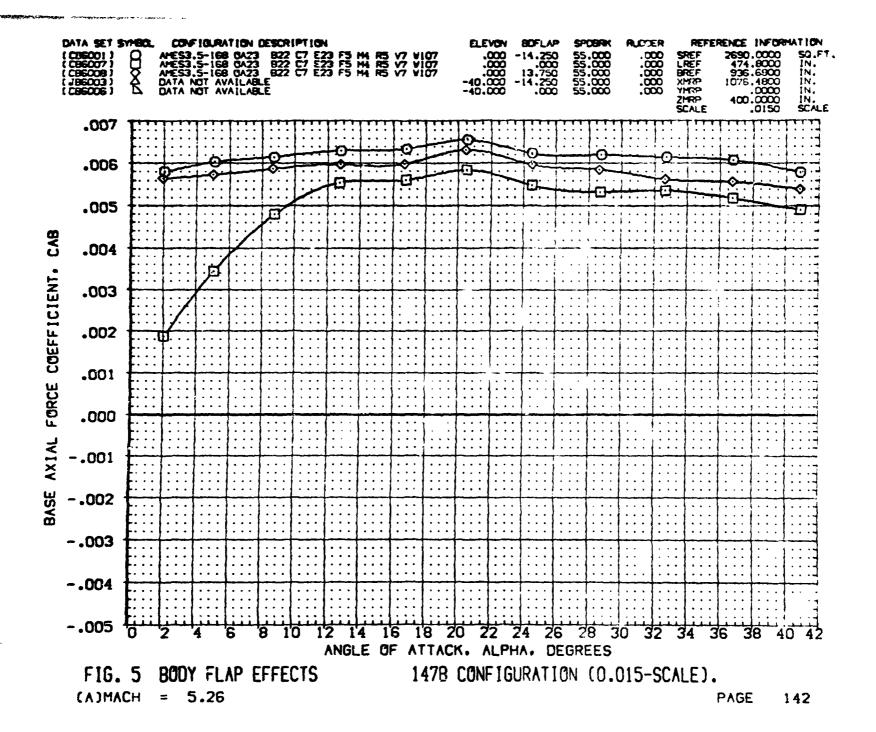
BODY FLAP EFFECTS

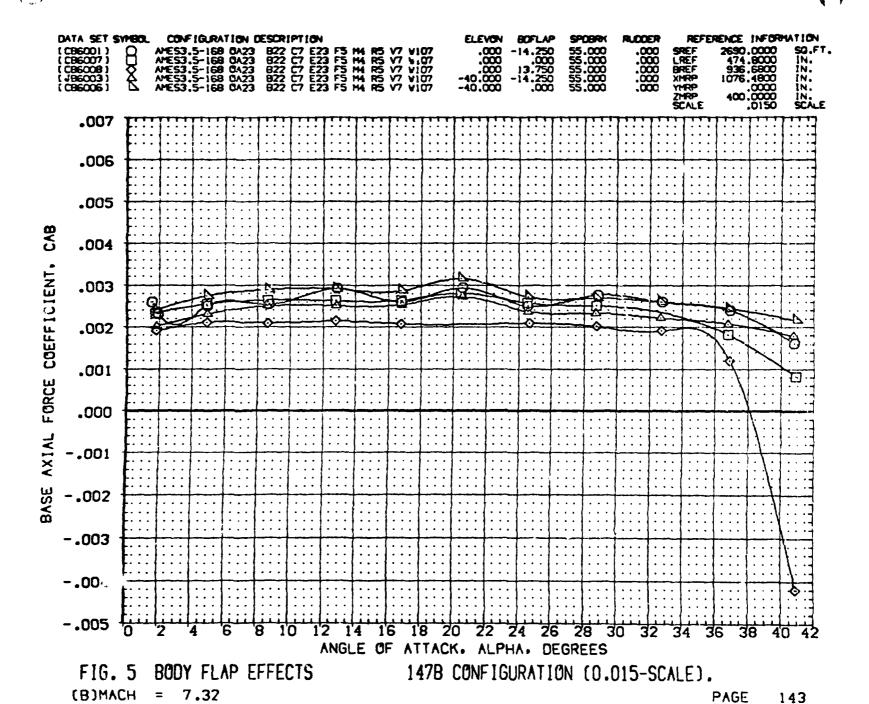
DATA SET SYNEOL CONFIGURATION DESCRIPTION

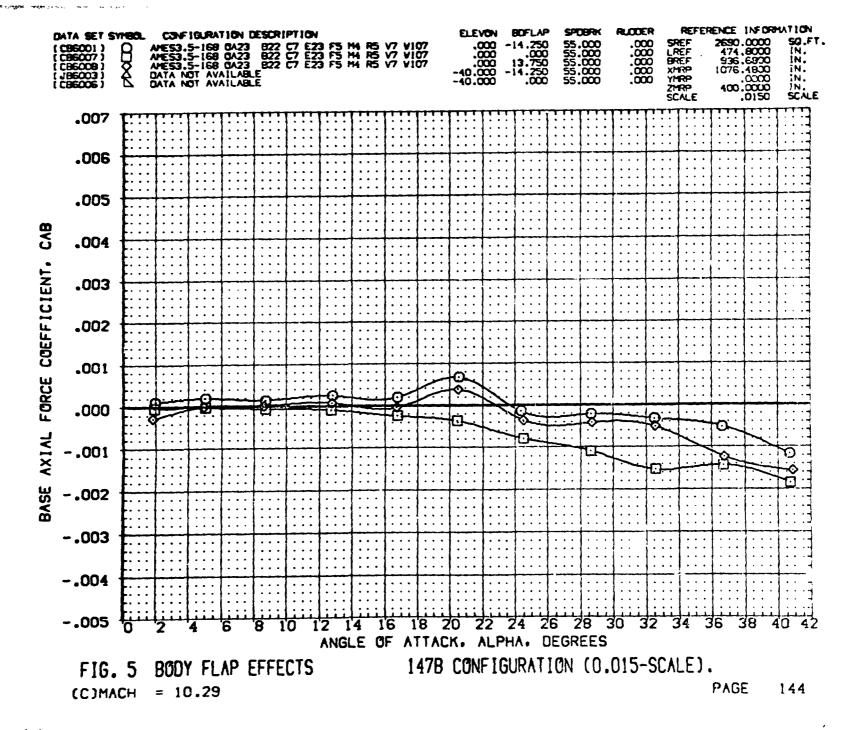
147B CONFIGURATION (0.015-SCALE).

(C)MACH = 10.29

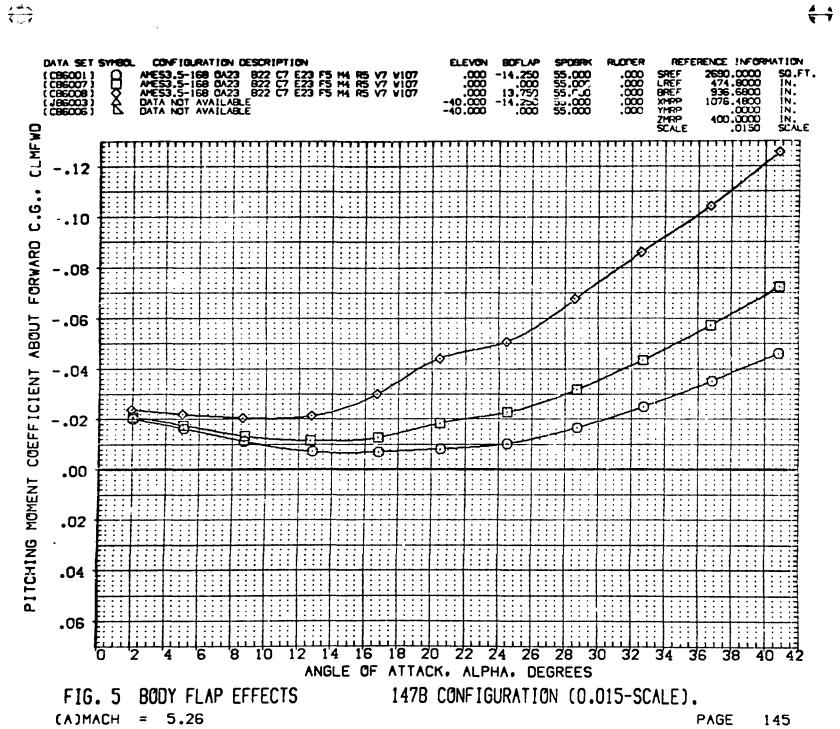
PAGE 141

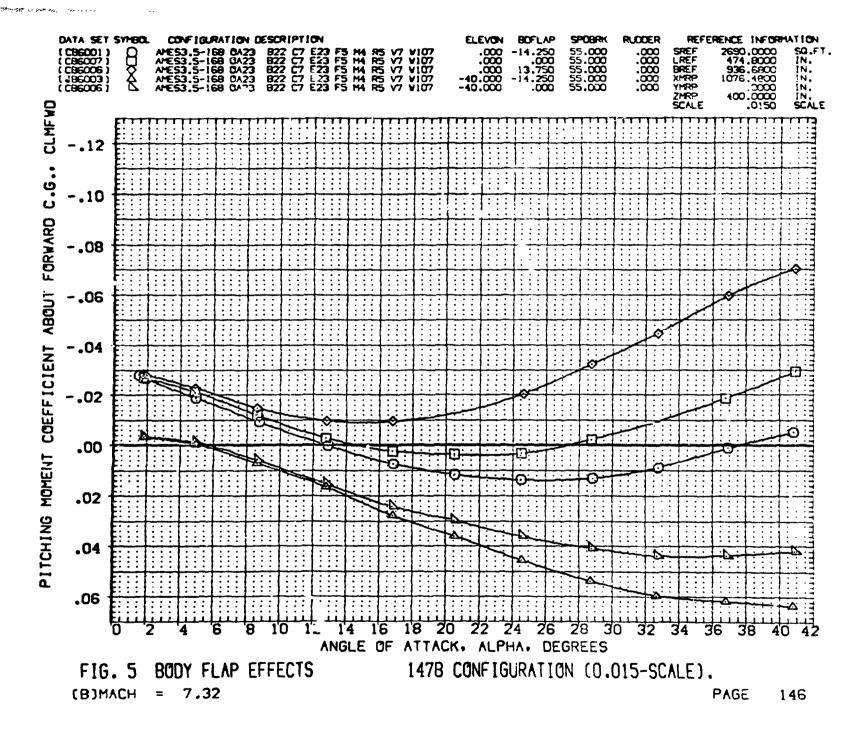


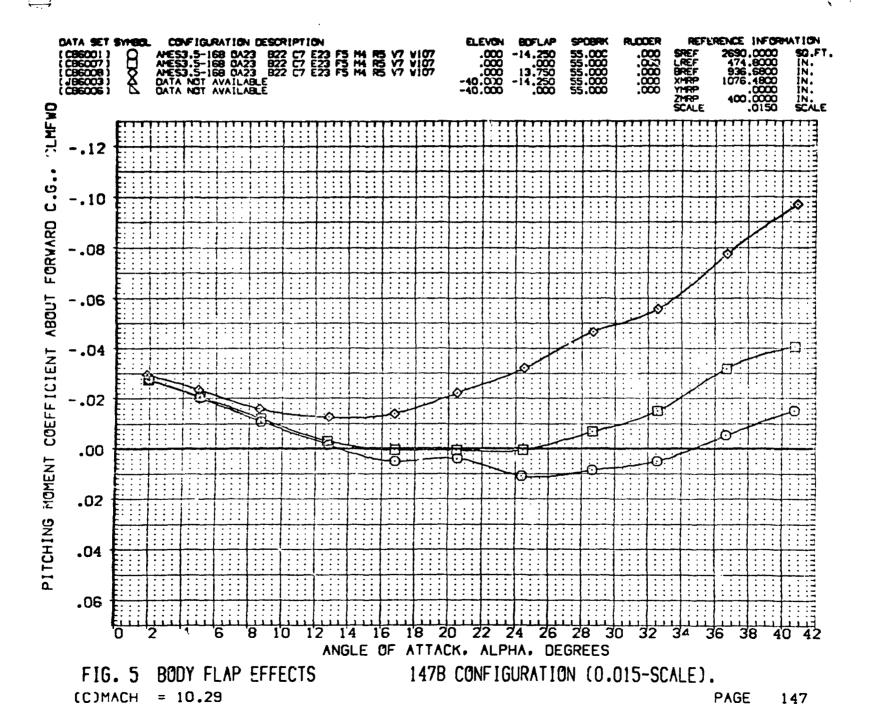


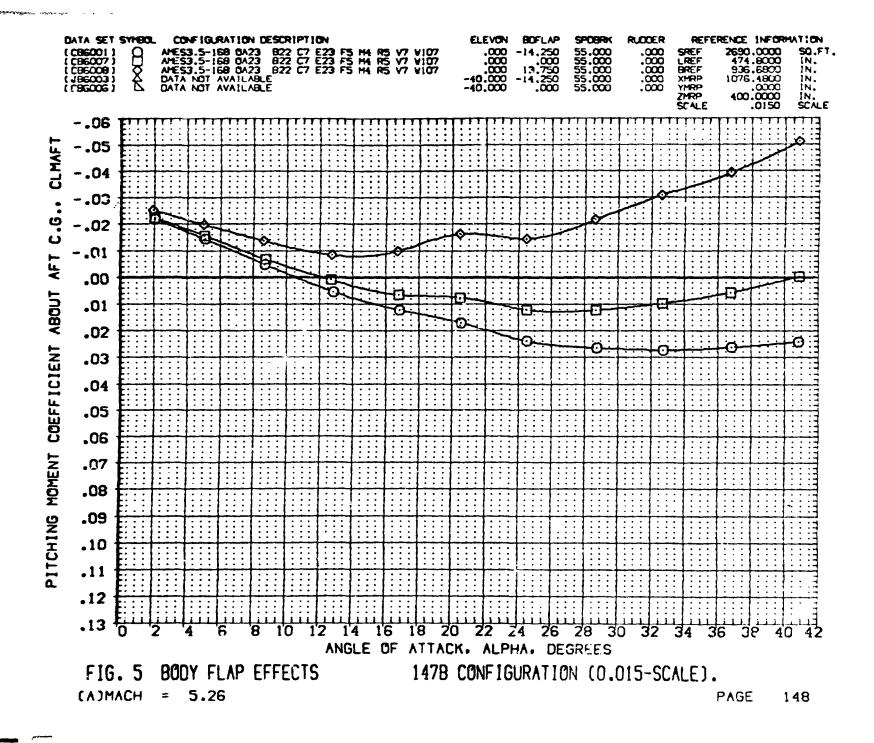


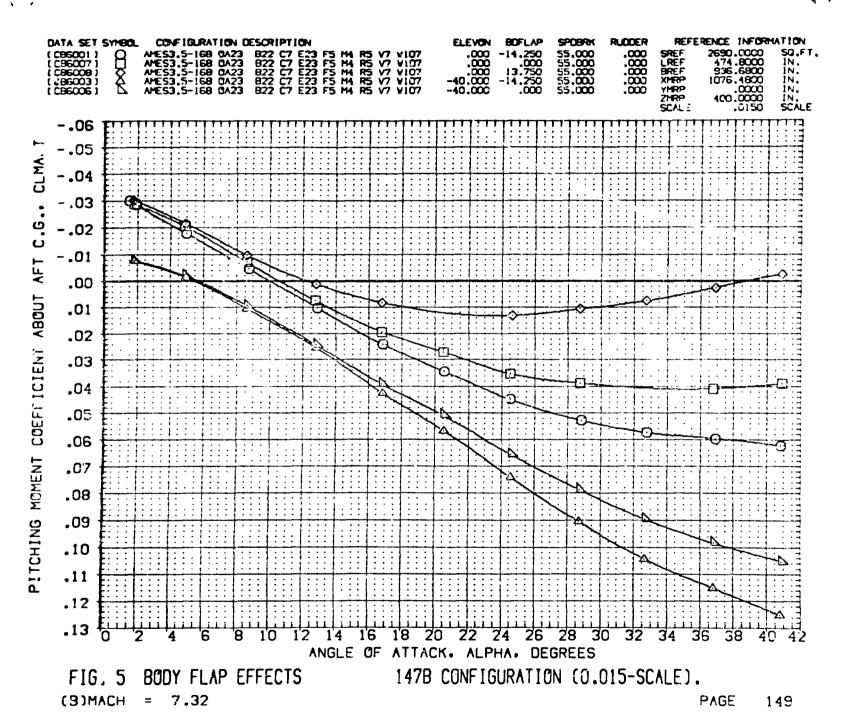
= =

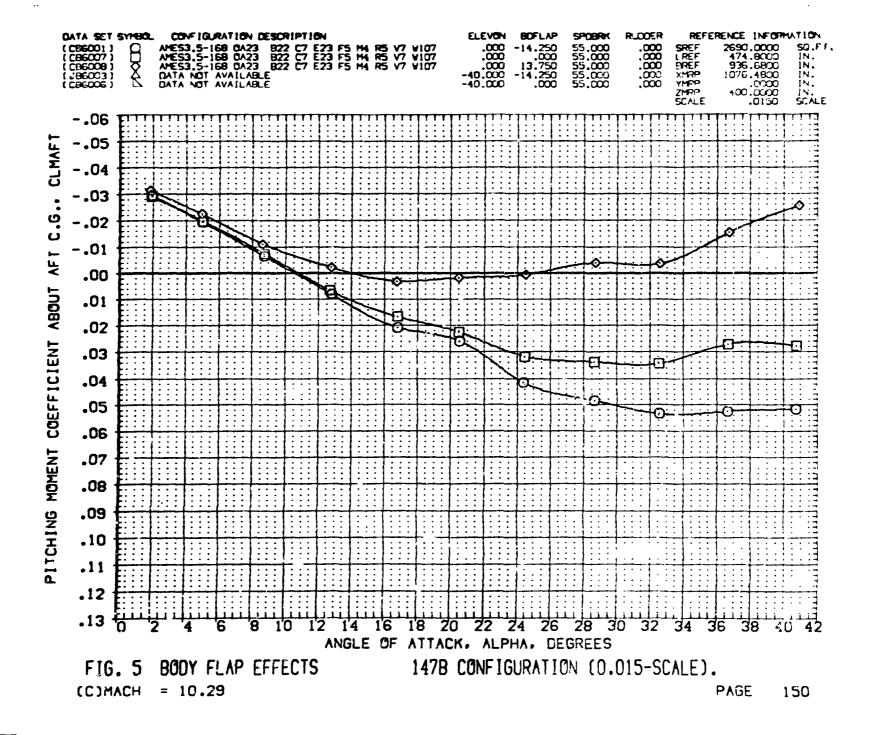


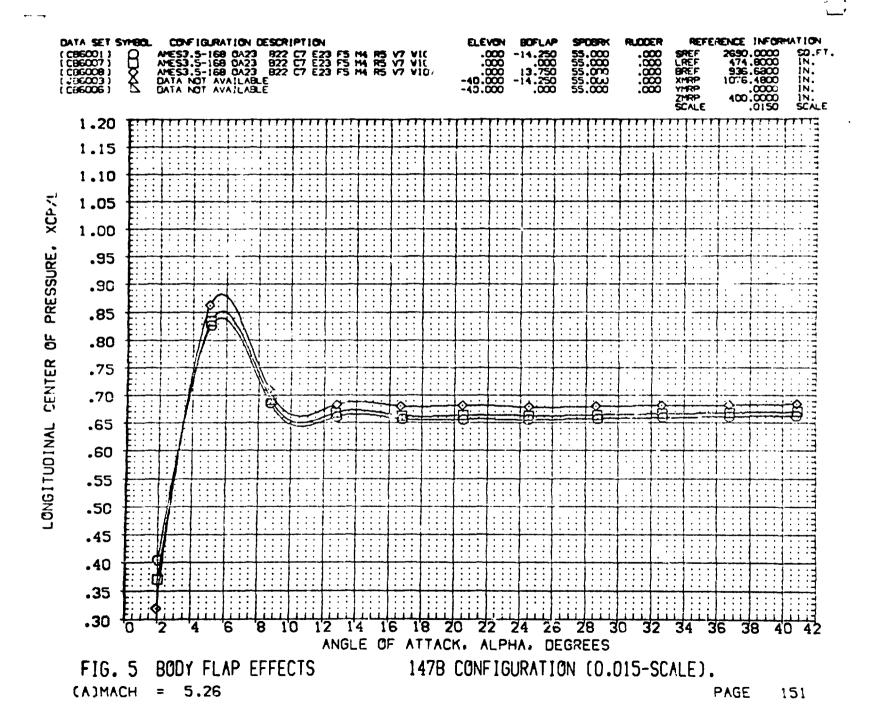


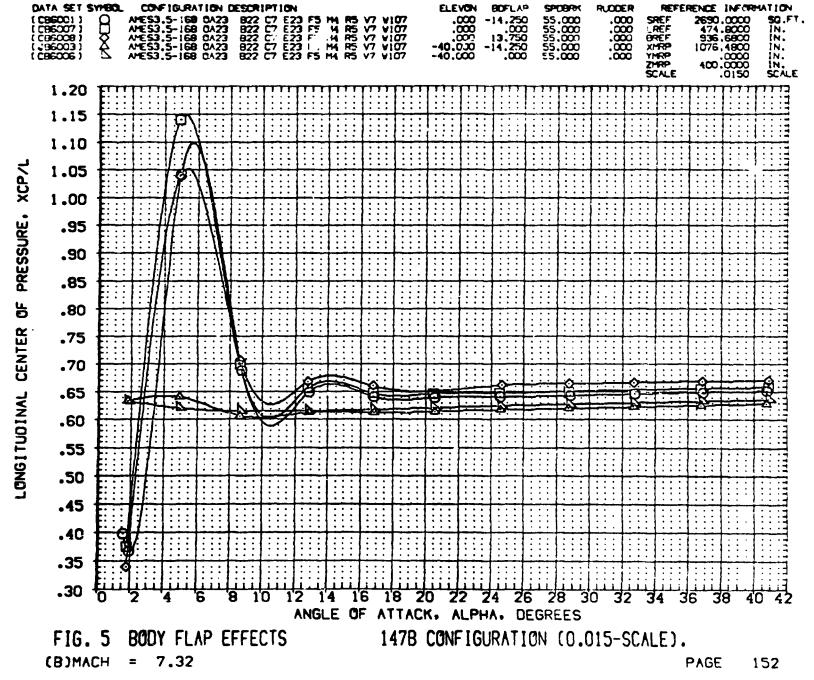




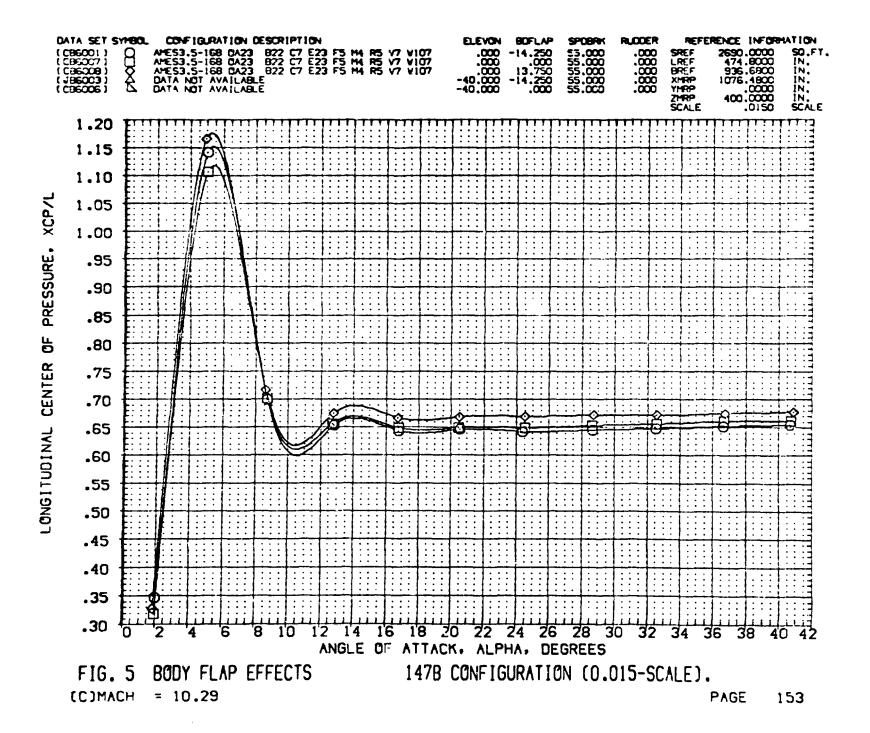


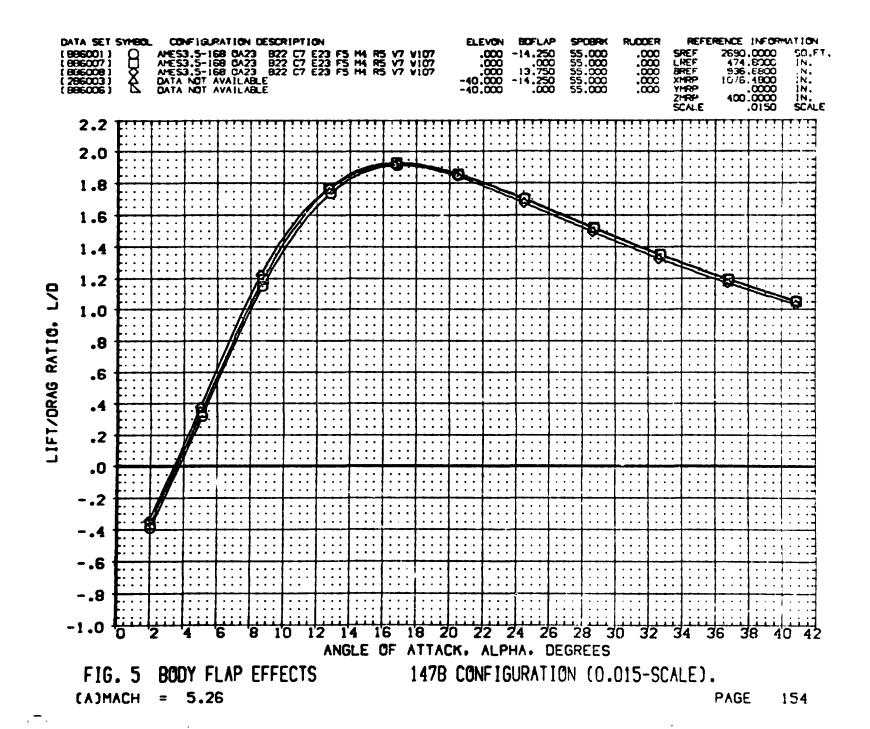




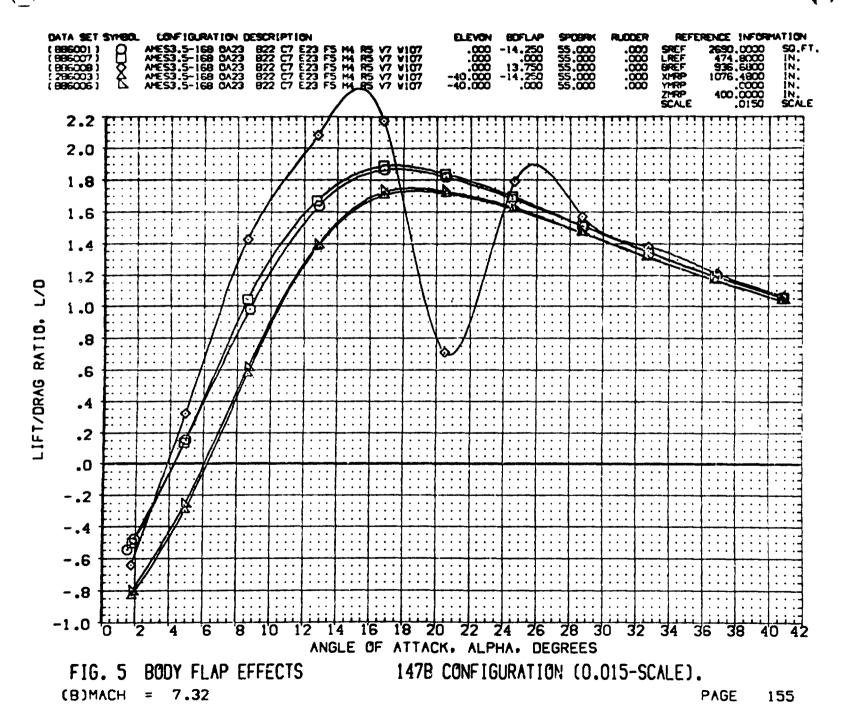


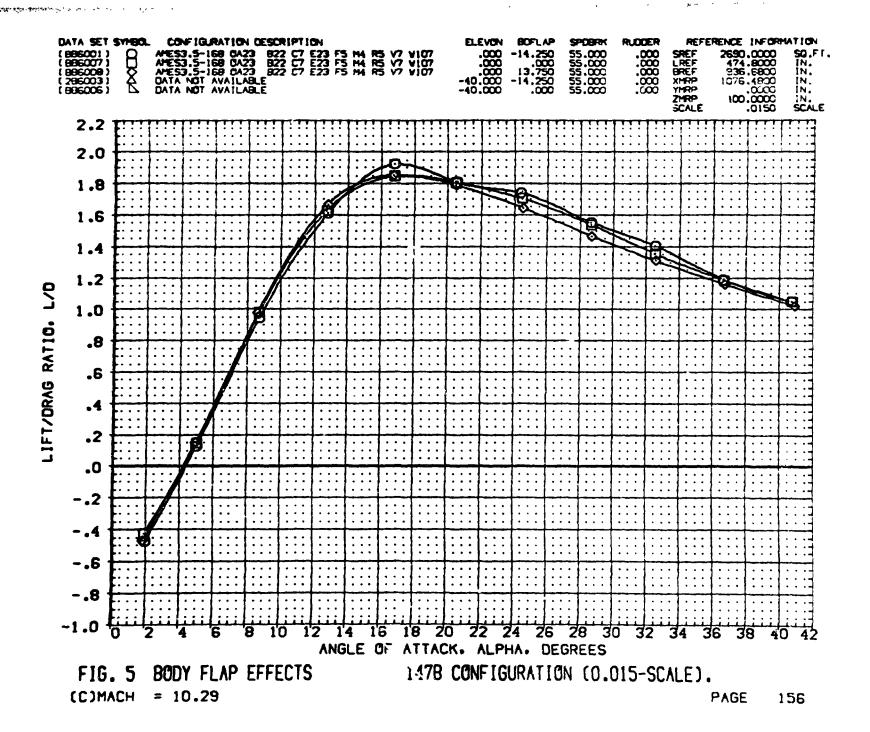
A district of the expension of the second

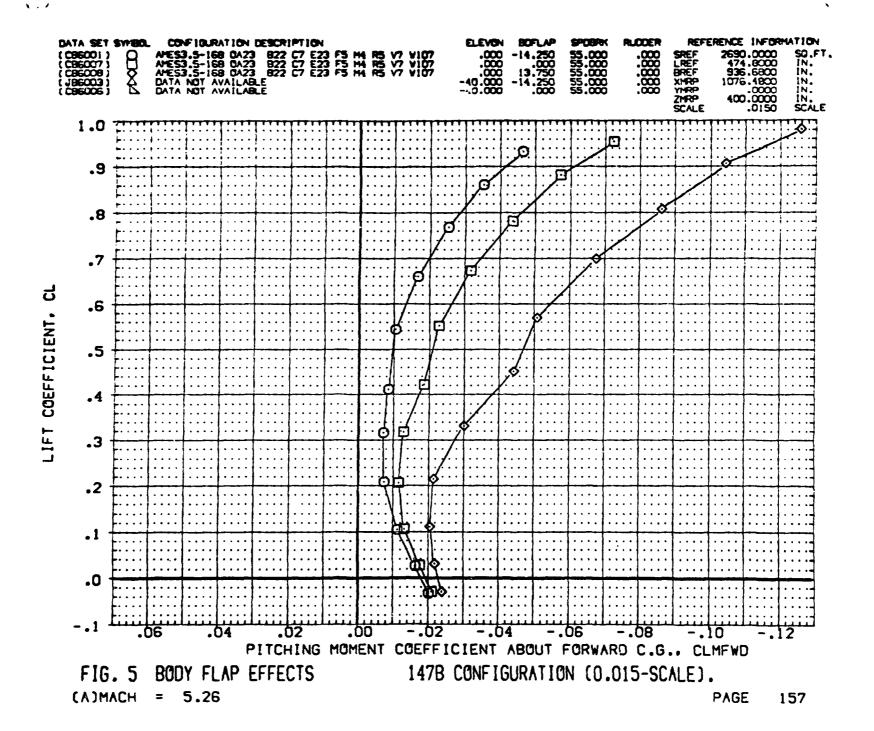




the state of the s

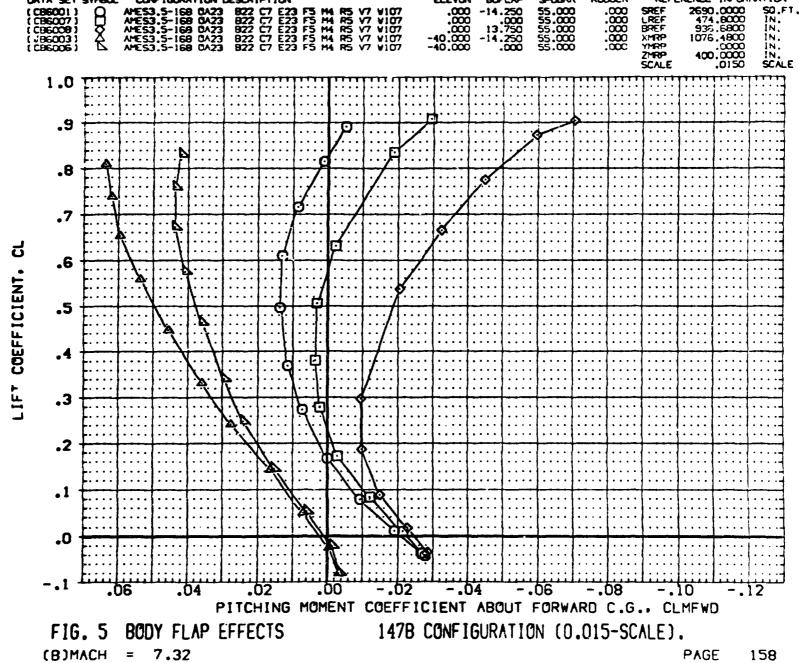






こうではないという マイ のみ カン

, <del>.</del> .



ELEVON

BOFLAP

DATA SET SYMBOL

CONFIGURATION DESCRIPTION

. . . . . .

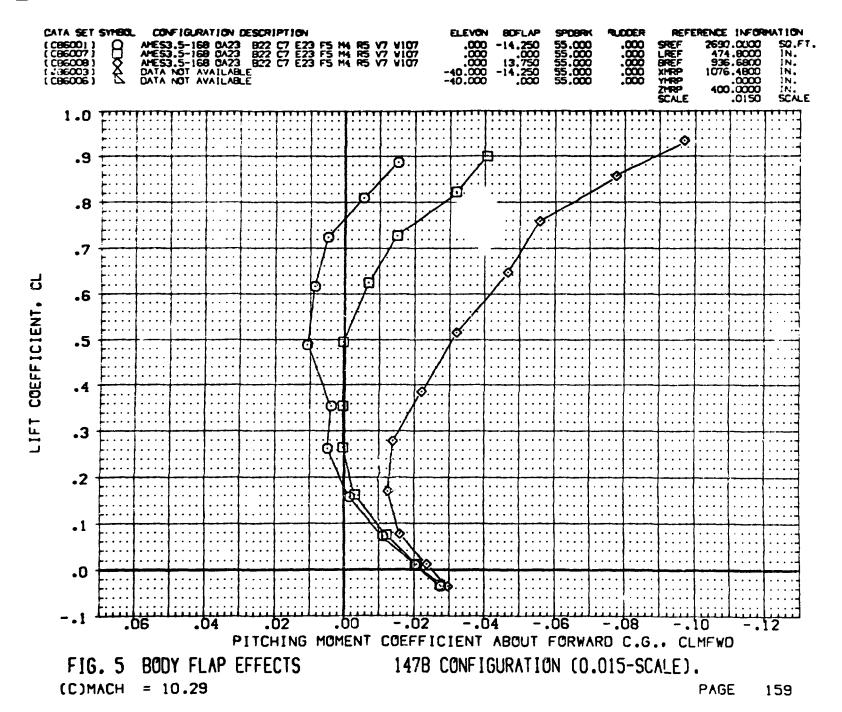
RUCCER

SPOBRK

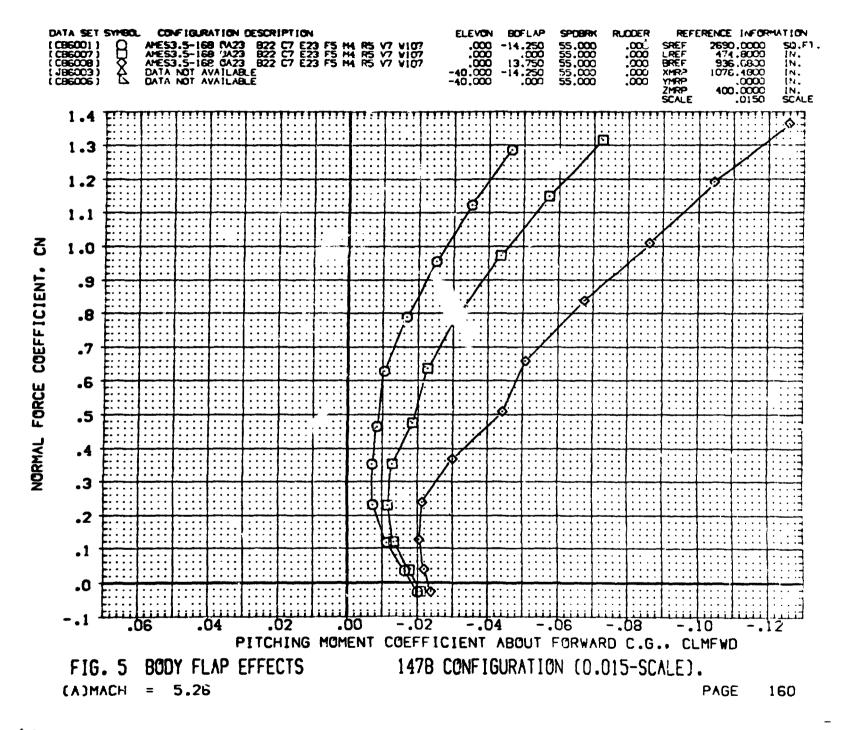
REFERENCE INFORMATION

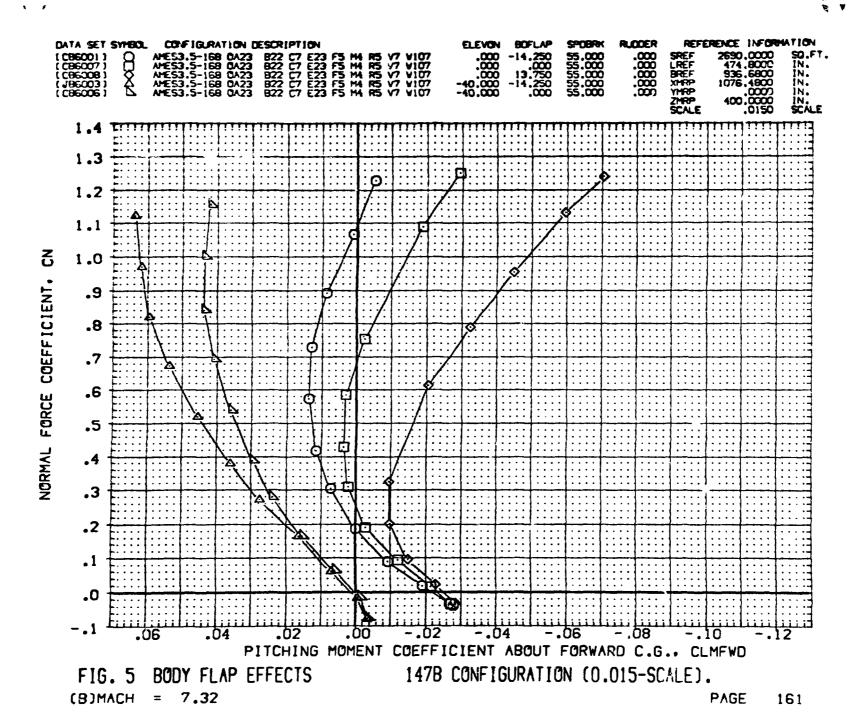
. . .

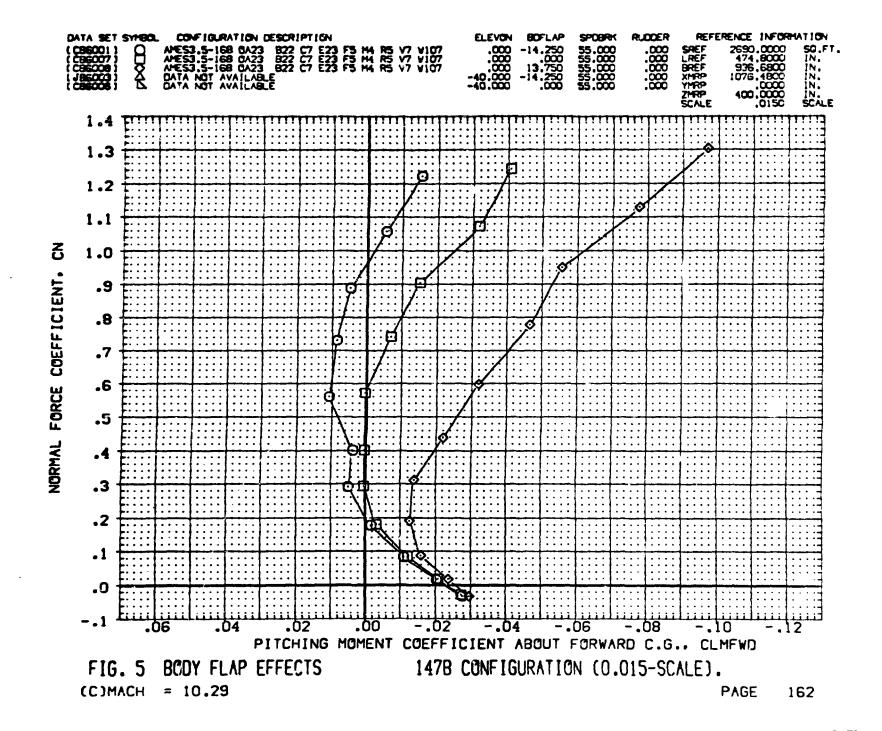


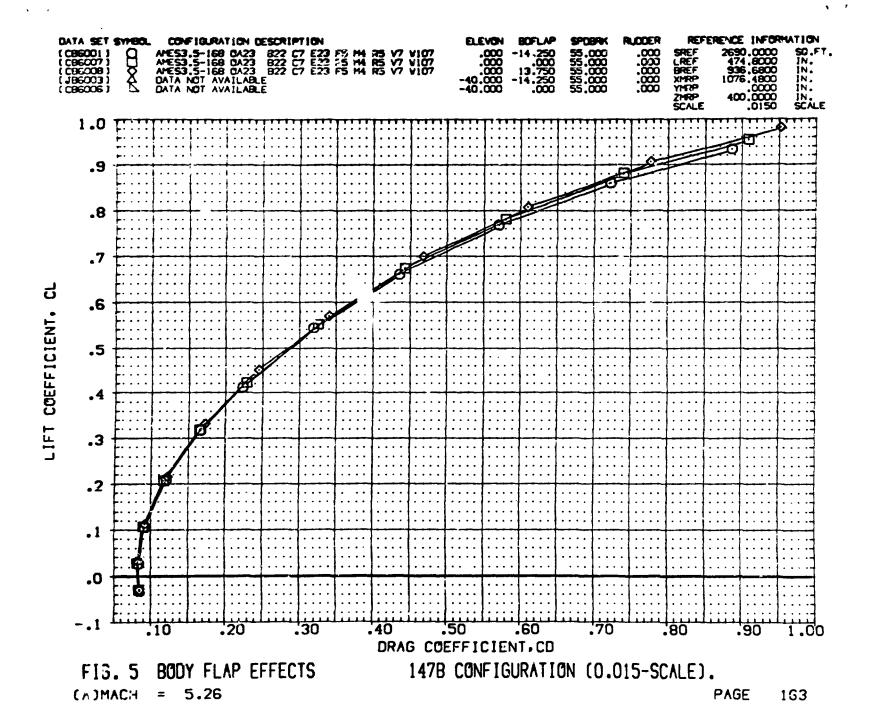


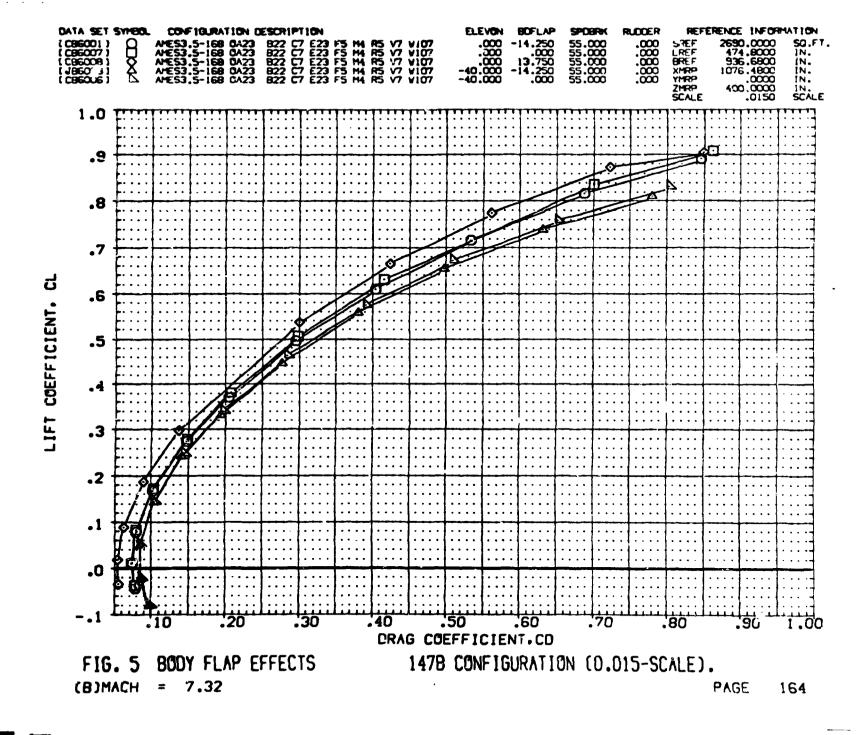
The state of the s

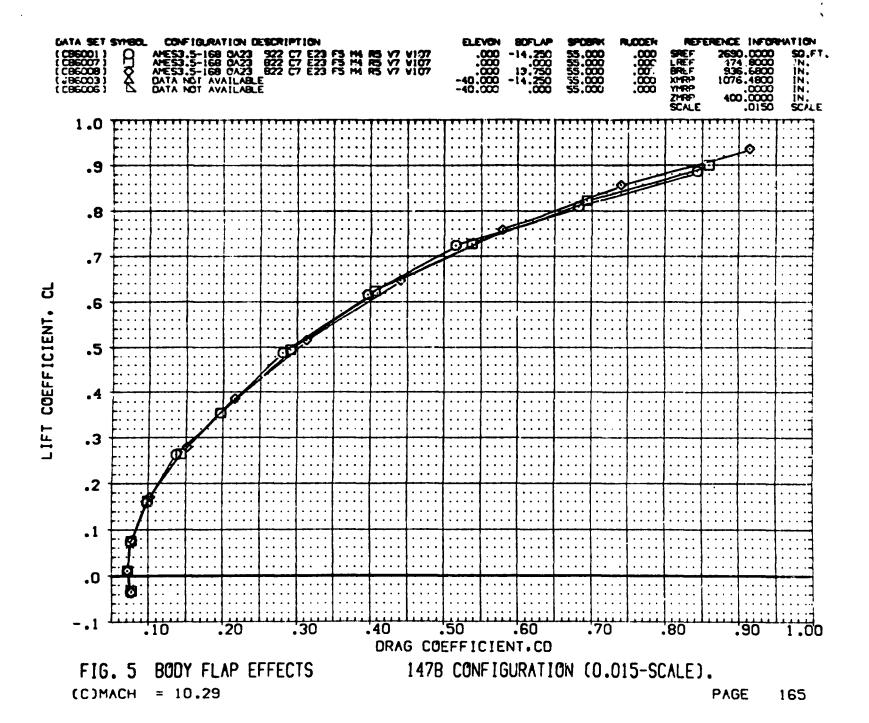


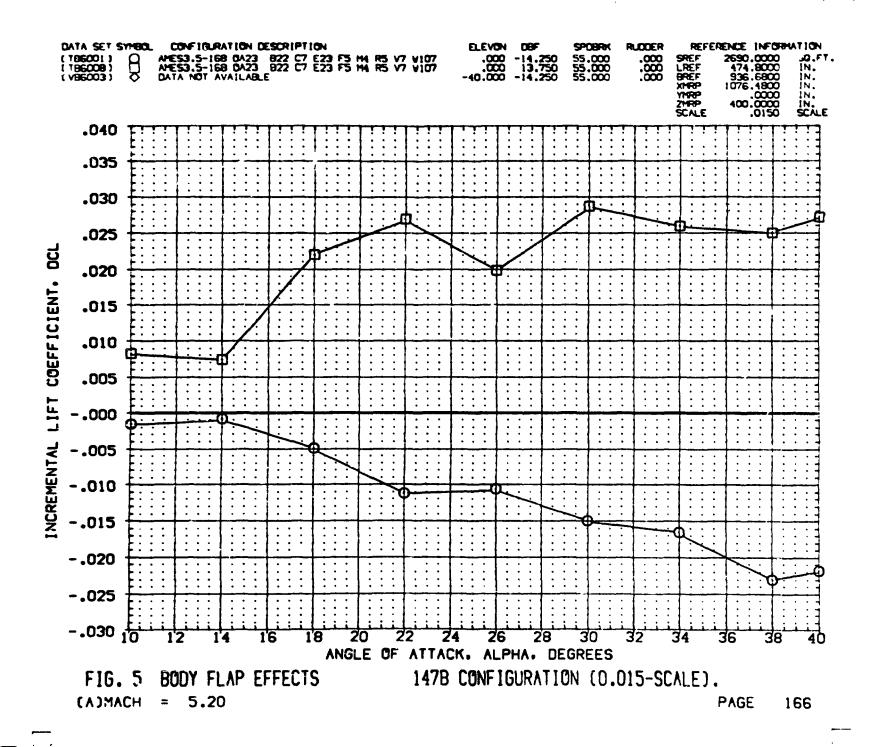


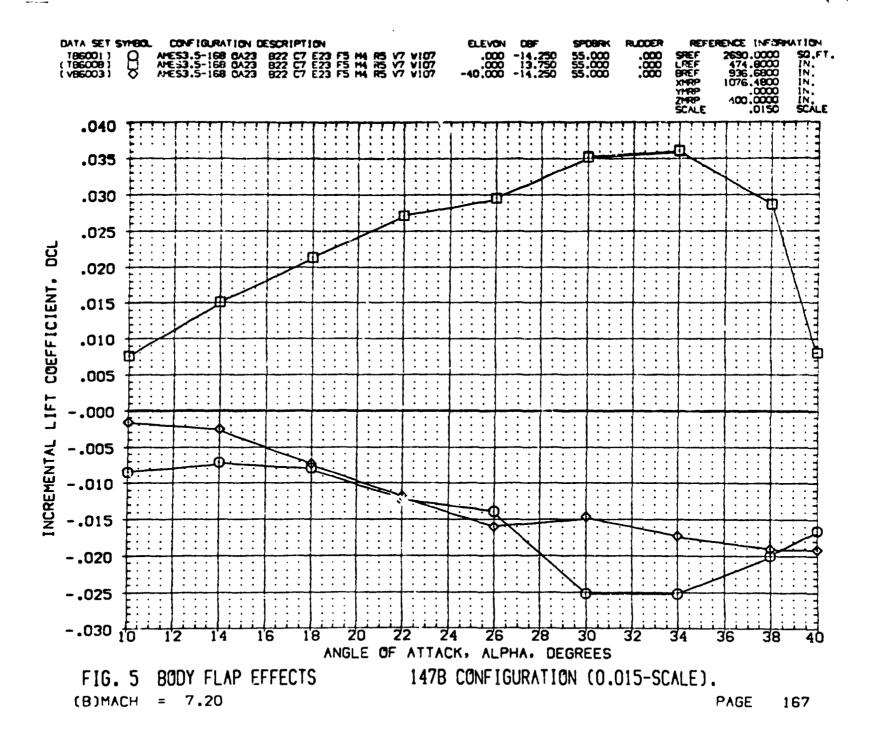


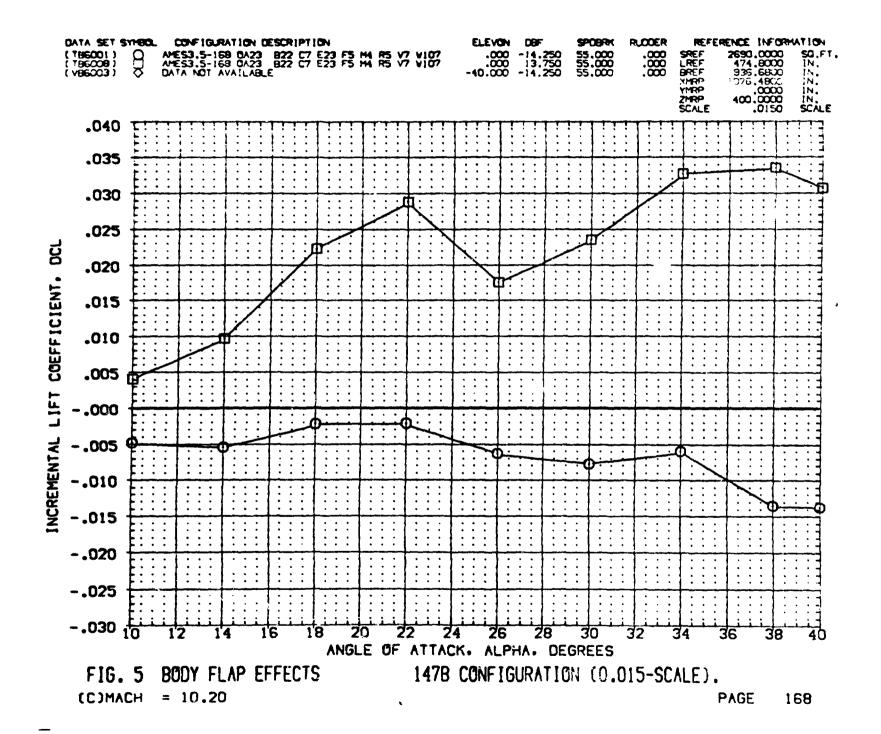


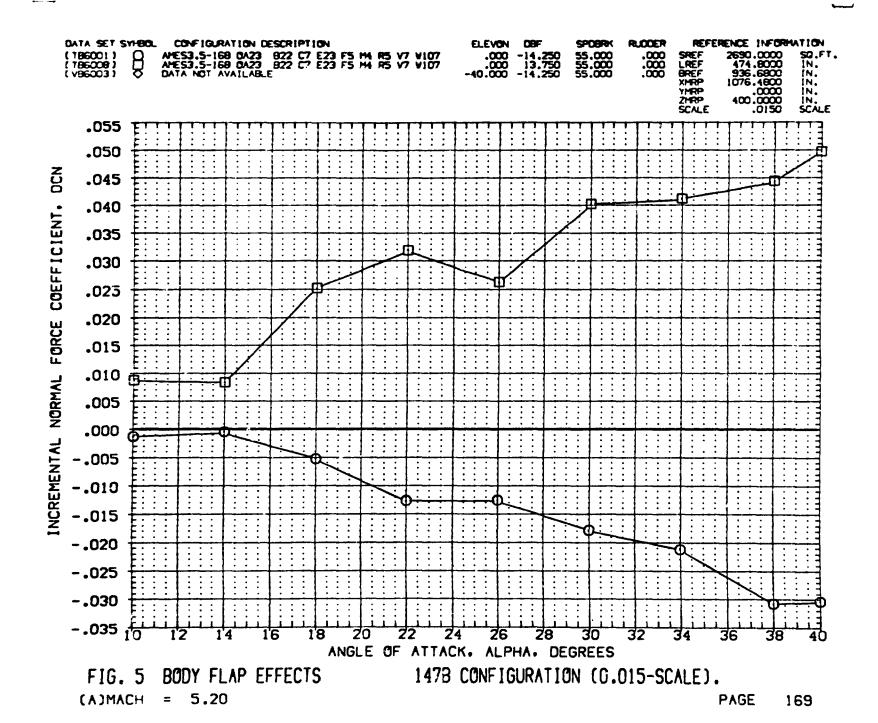


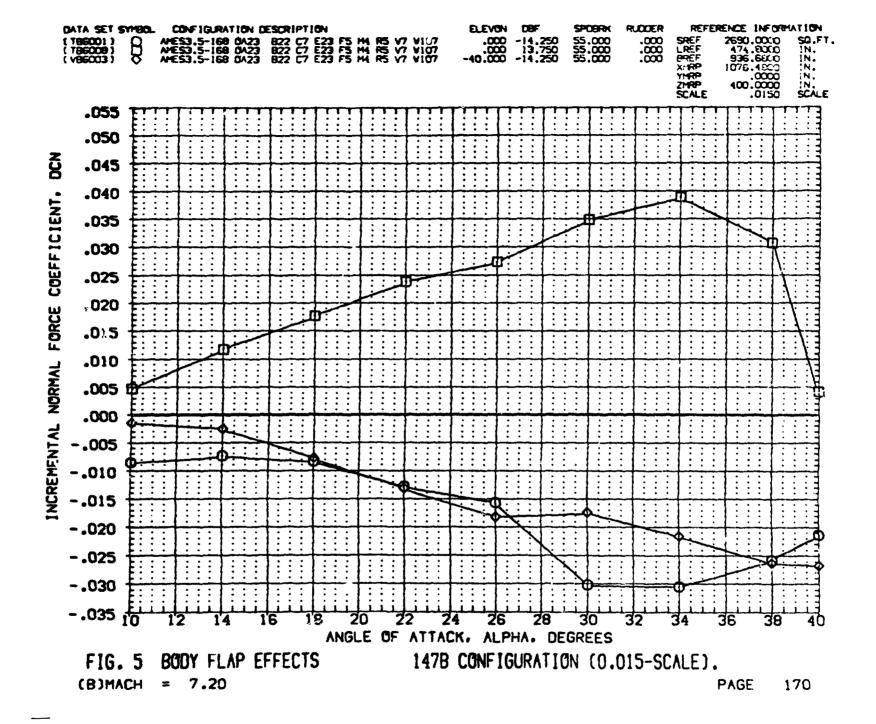


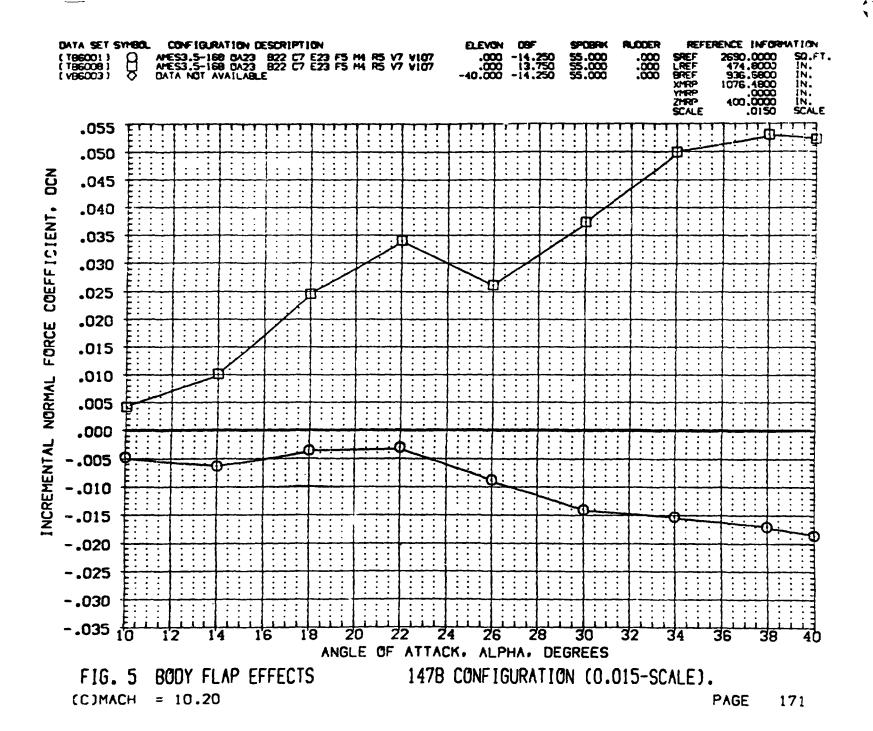


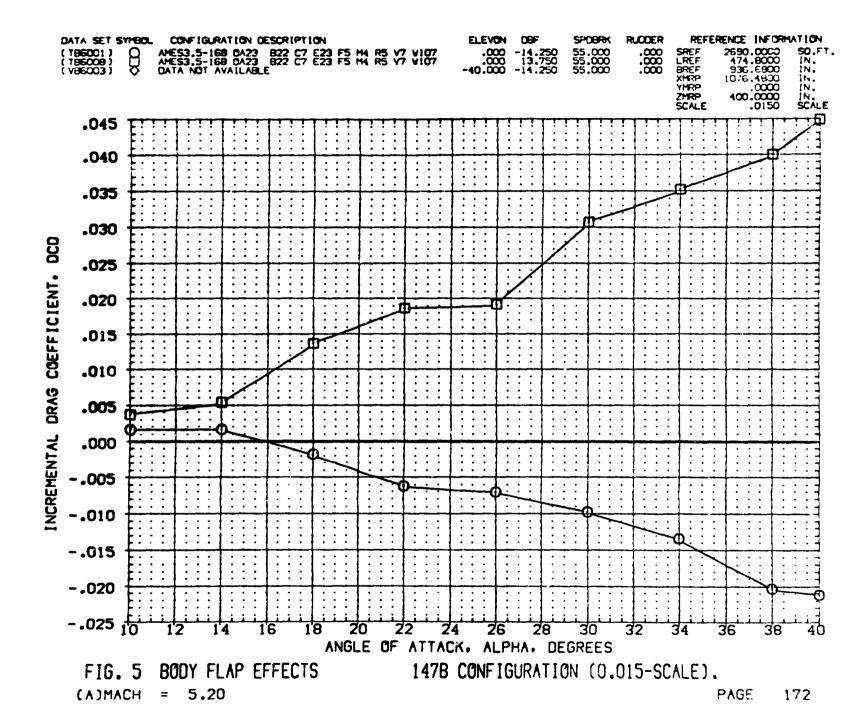


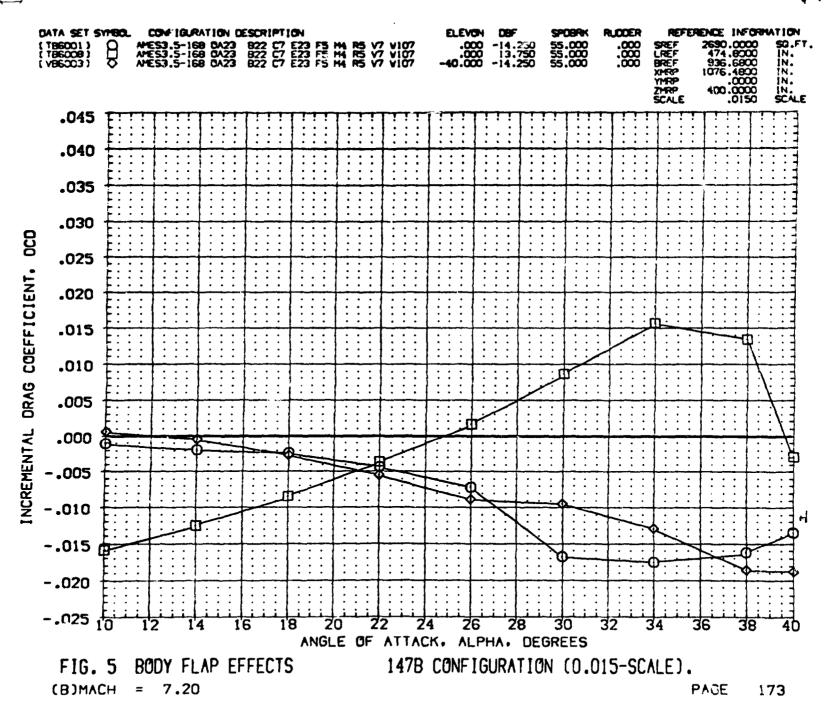


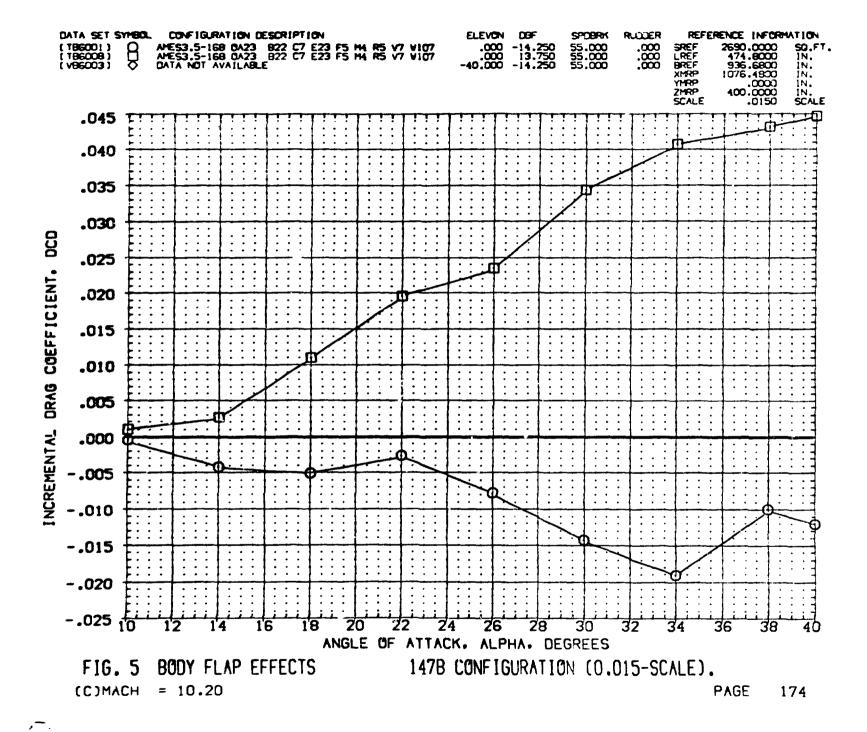


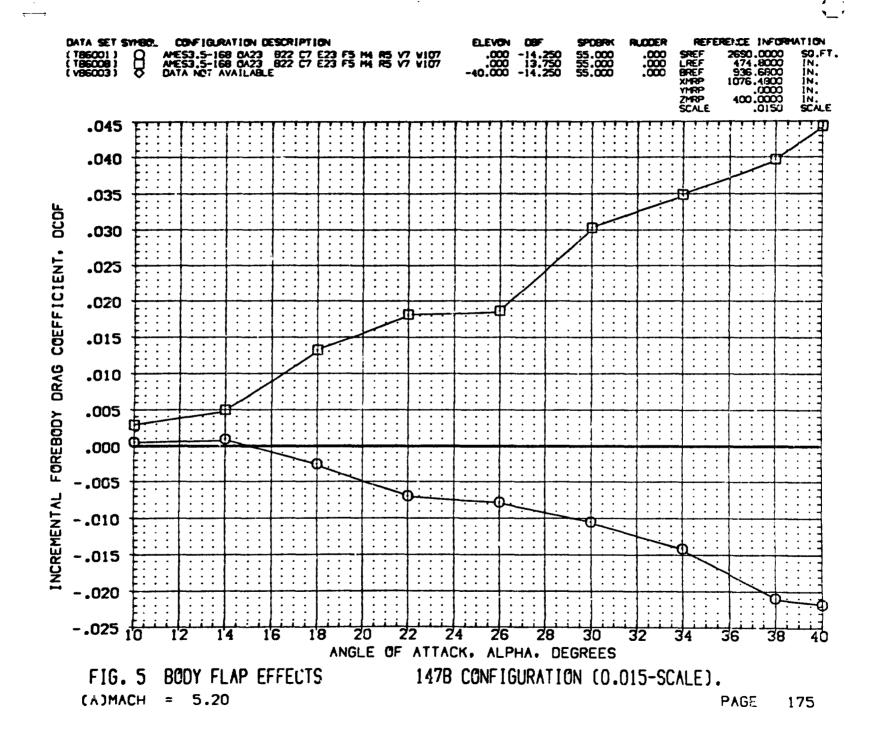


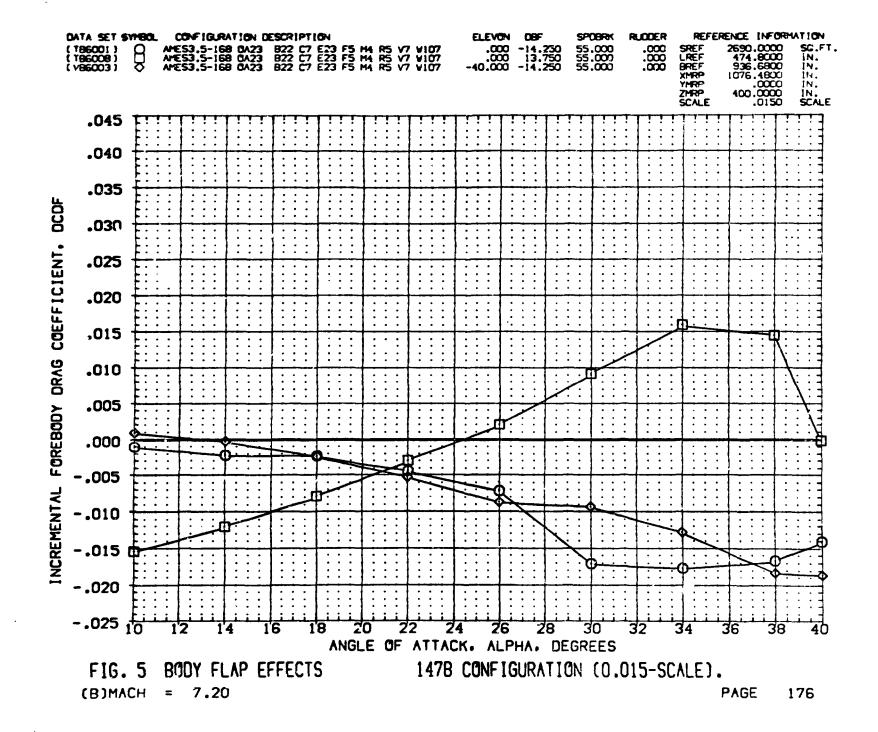


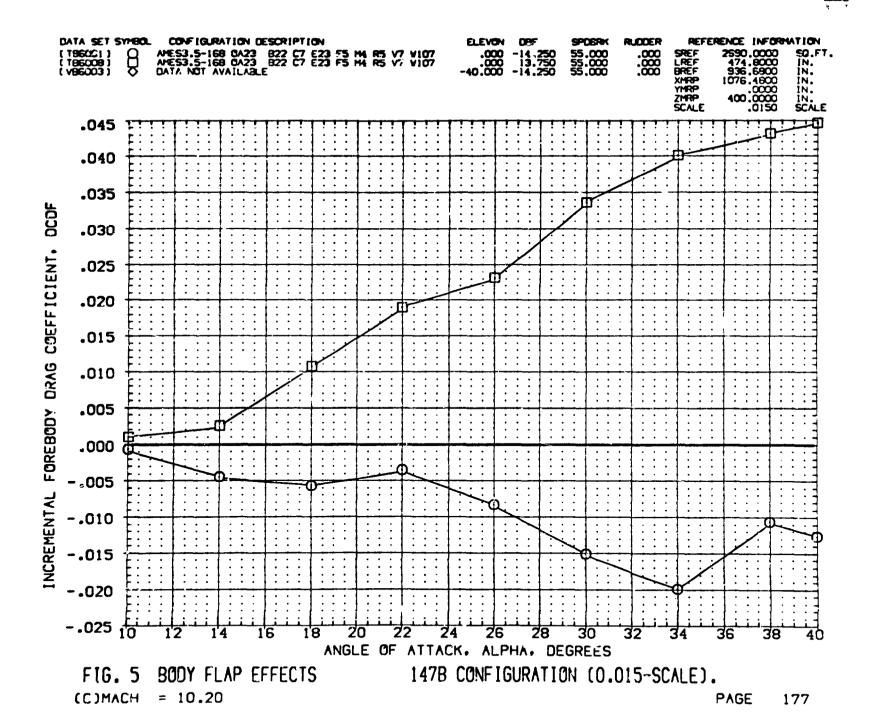


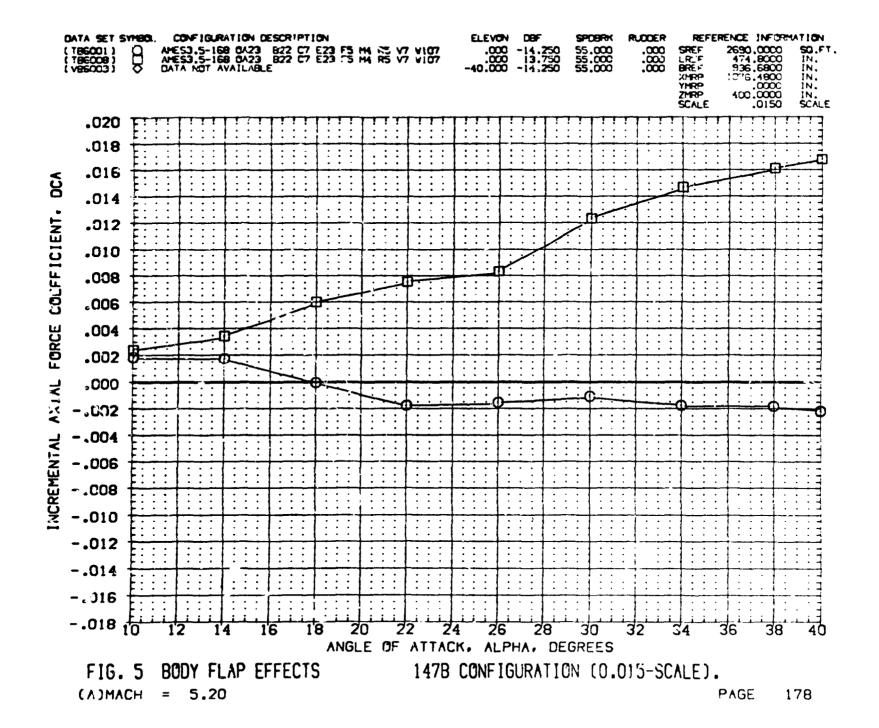


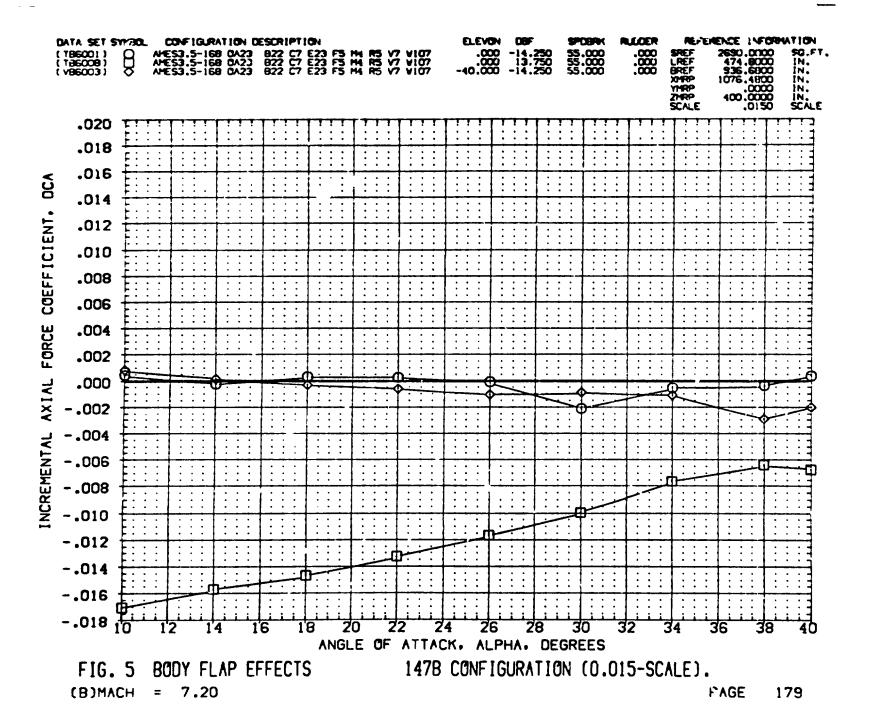


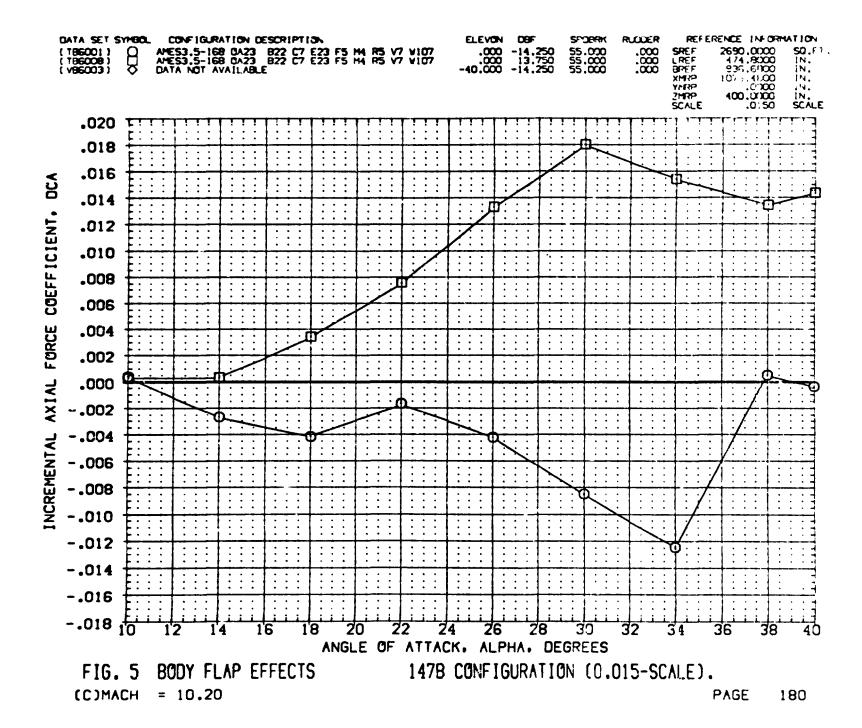


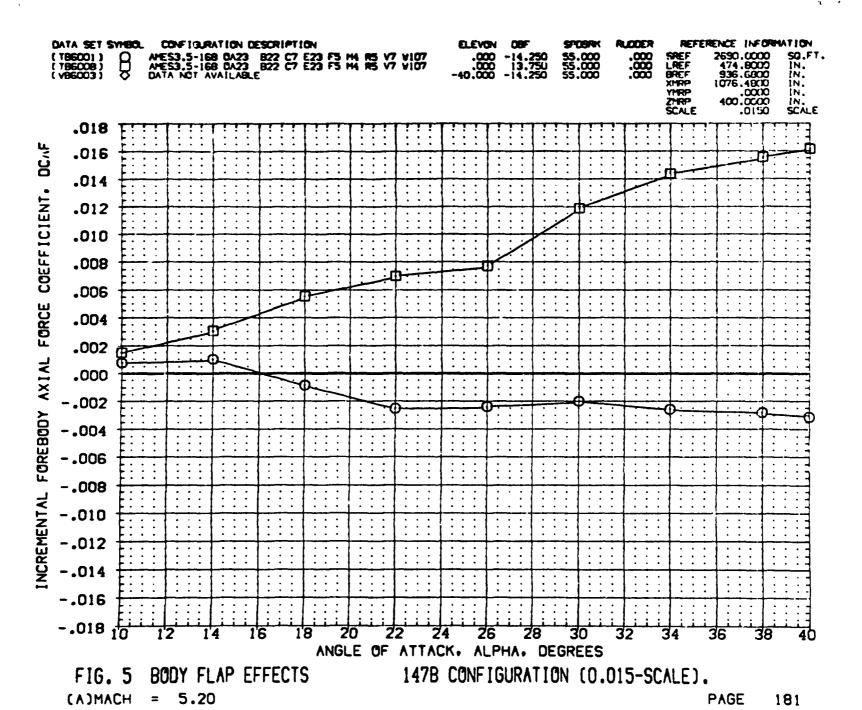


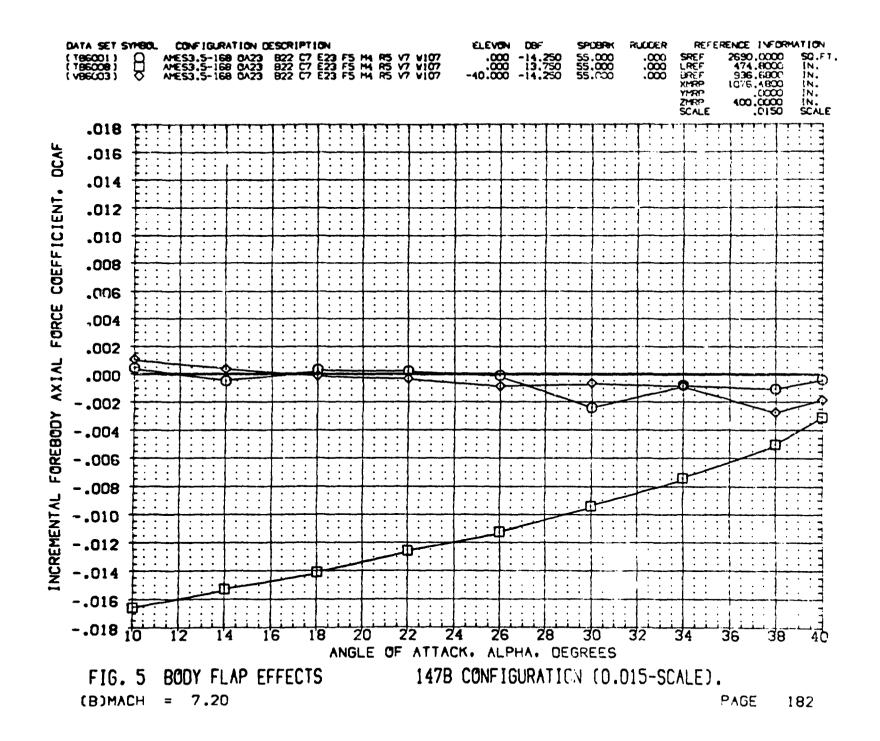


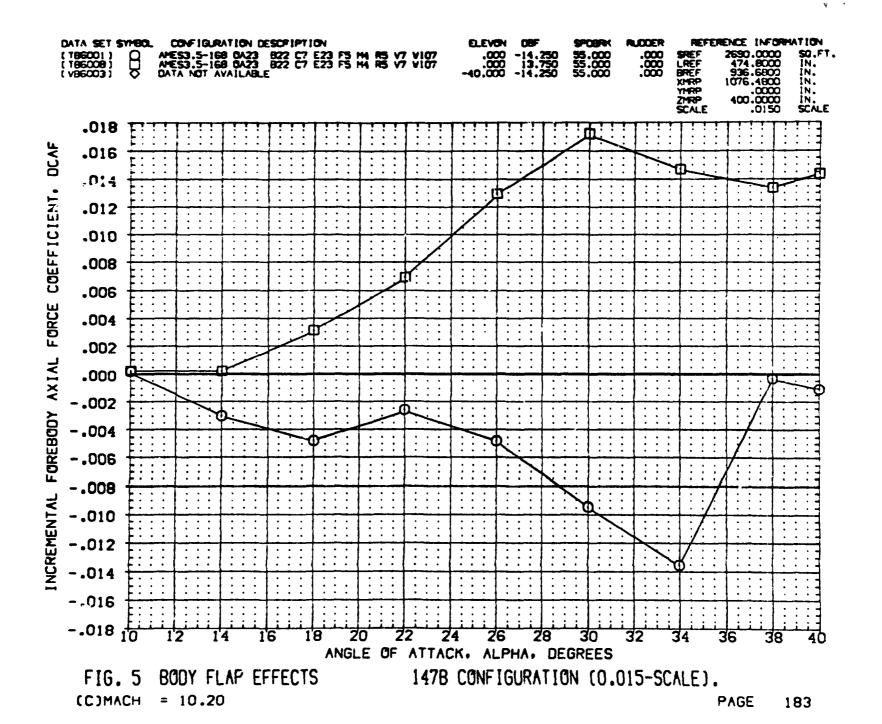


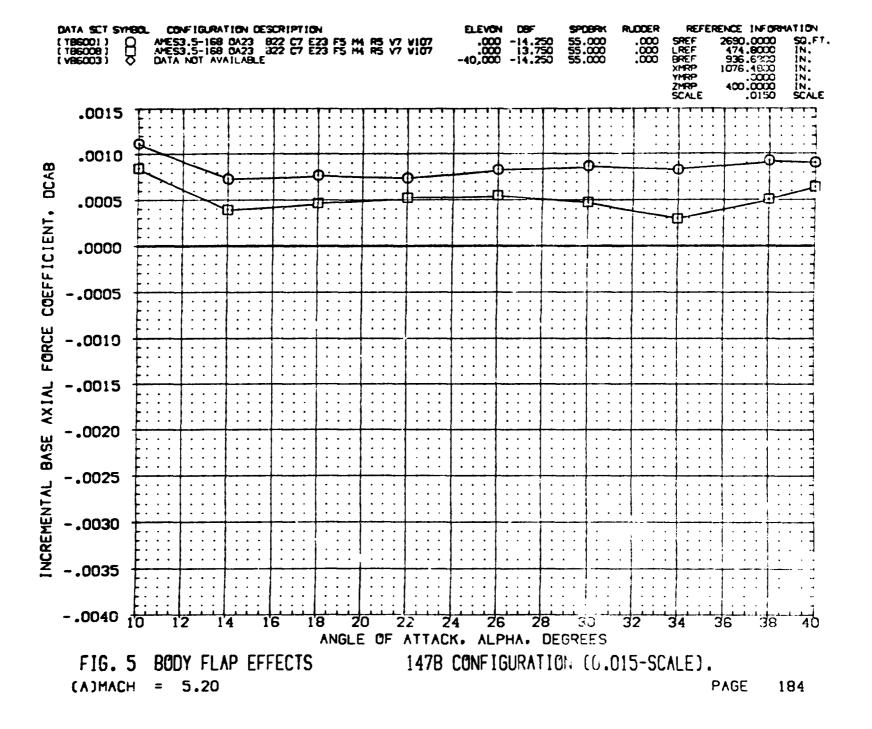


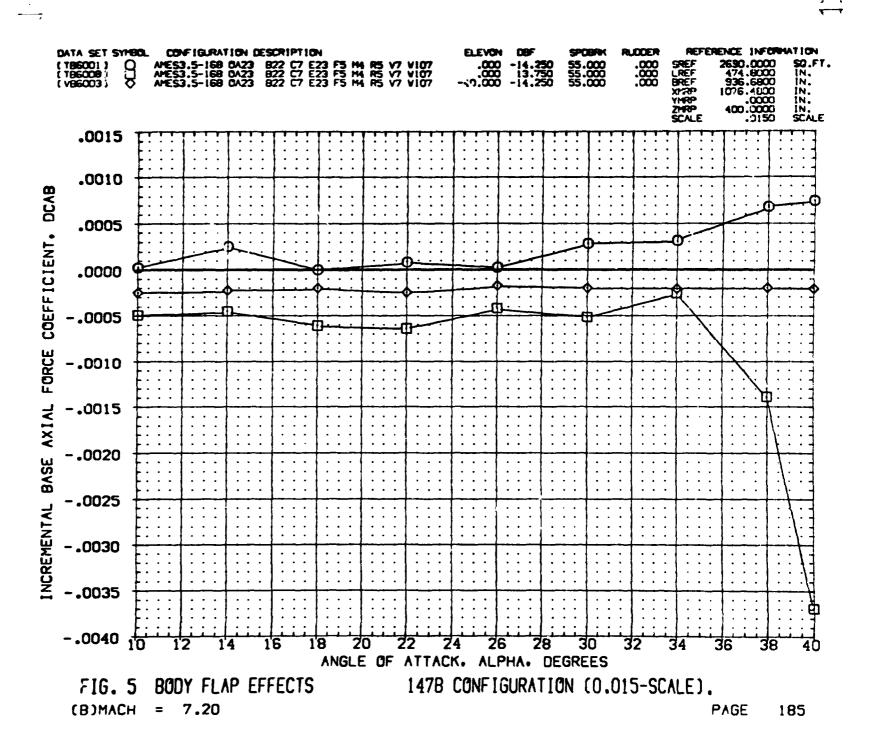




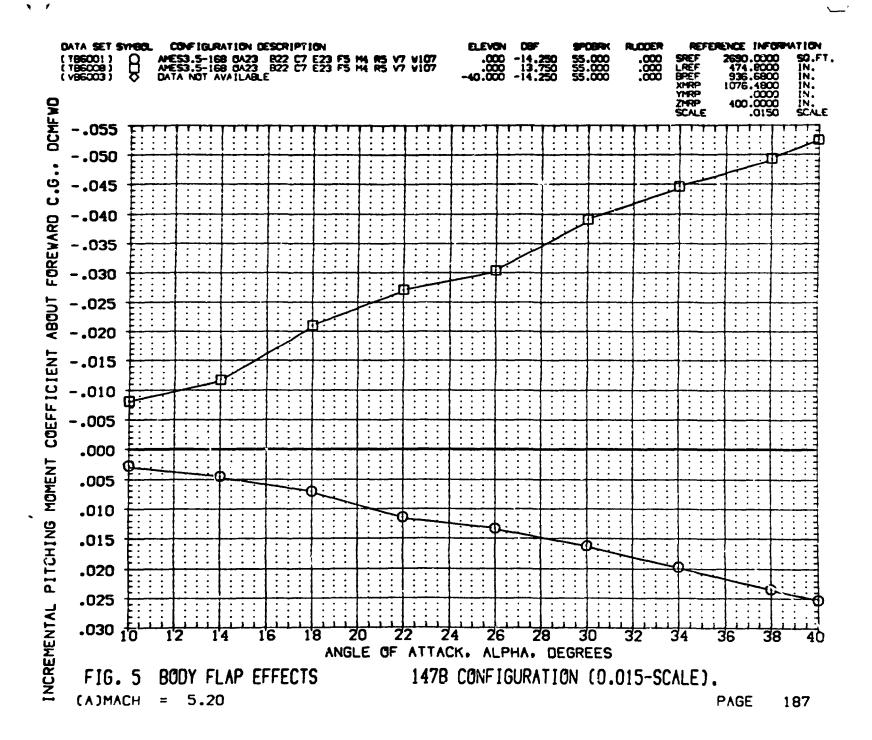


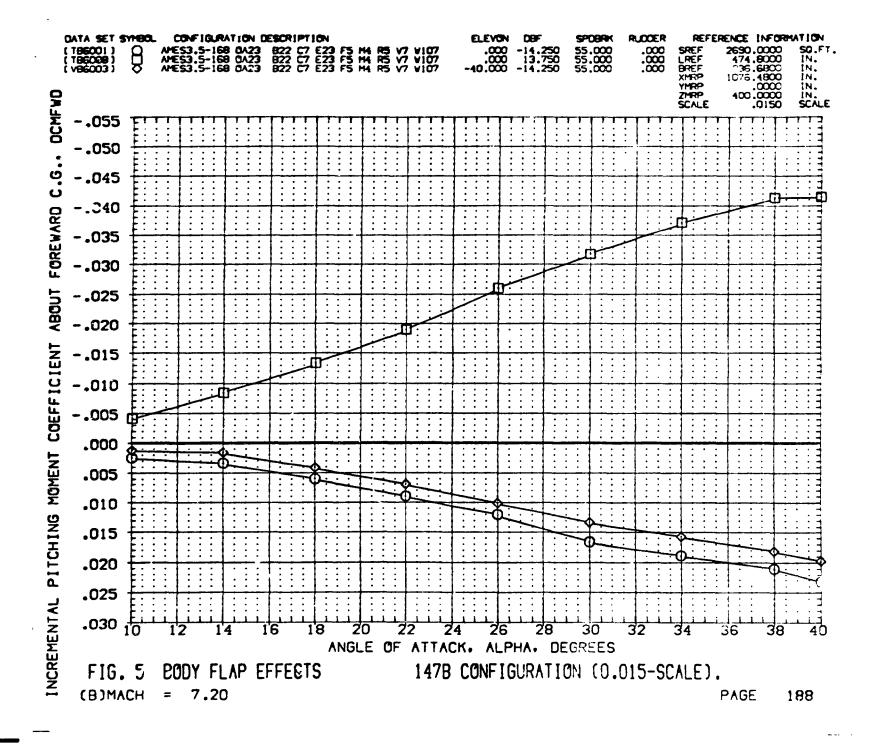


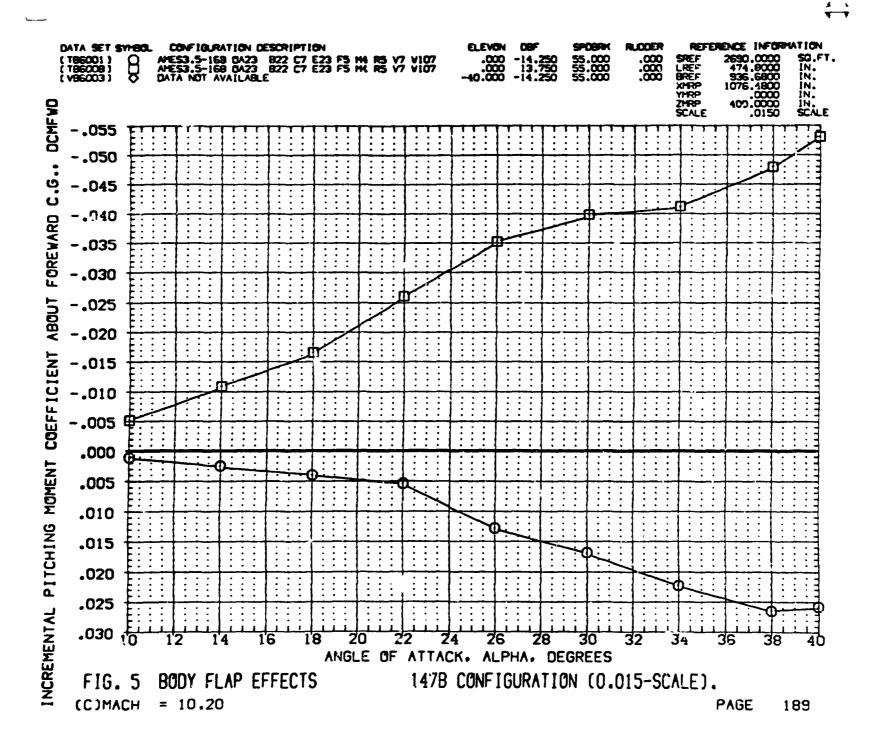


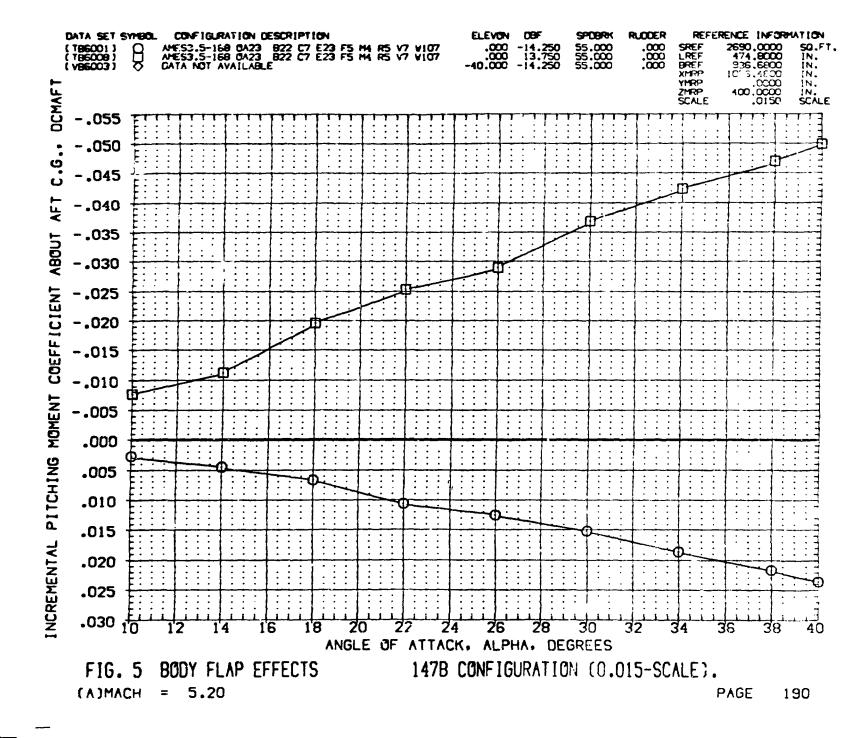


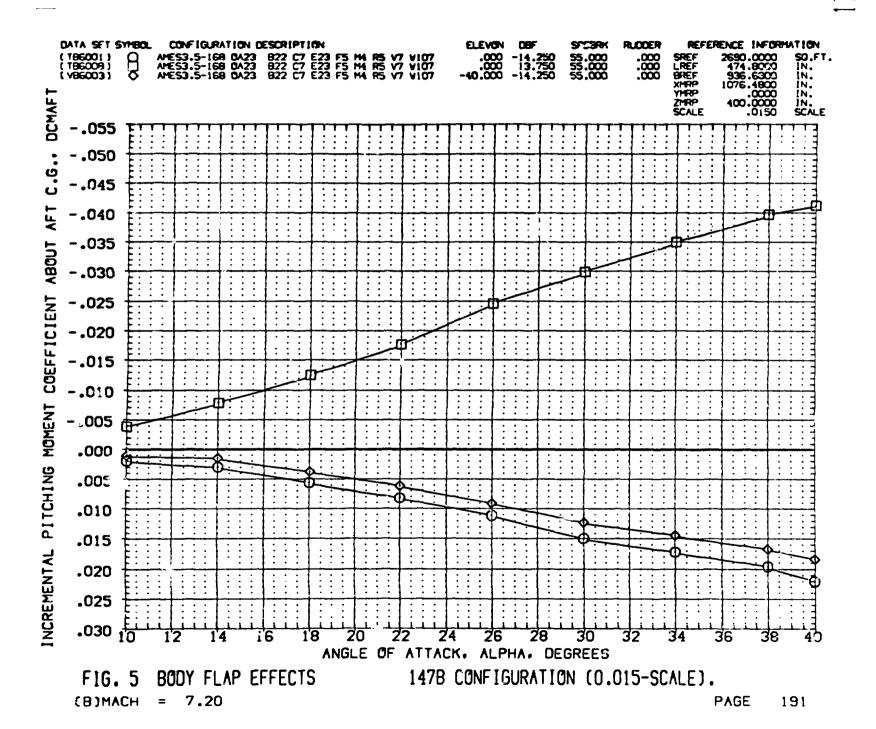
REFERENCE INFORMATION DATA SET SYMBOL CONFIGURATION DESCRIPTION ELEVON SPOBRK RLOCER 2690.0000 474.8000 936.6800 1076.4800 .0000 400.0000 .0150 SREF LREF BREF XMRP YMRP ZMRP SCALE .000 -14.250 .000 13.750 -40.000 -14.250 (196001) (196009) (v96003) AMES3.5-168 0A23 822 C7 E23 F5 H4 R5 V7 V107 AMES3.5-168 0A23 822 C7 E23 F5 H4 R5 V7 V107 DATA NOT AVAILABLE 55.000 55.000 55.000 . 888 88. SQ.FT. IN. IN. N. IN. .0015 .0010 COEFFICIENT. DCAB .0005 .0000 -.0005 FORCE -.0010 -.0015 BASE AXIAL -.0020 -.0025 INCREMENTAL -.0030 -.0035 ANGLE OF ATTACK. ALPHA. DEGREES 147B CONFIGURATION (0.015-SCALE). BODY FLAP EFFECTS FIG. 5 (C)MACH = 10.20PAGE 186

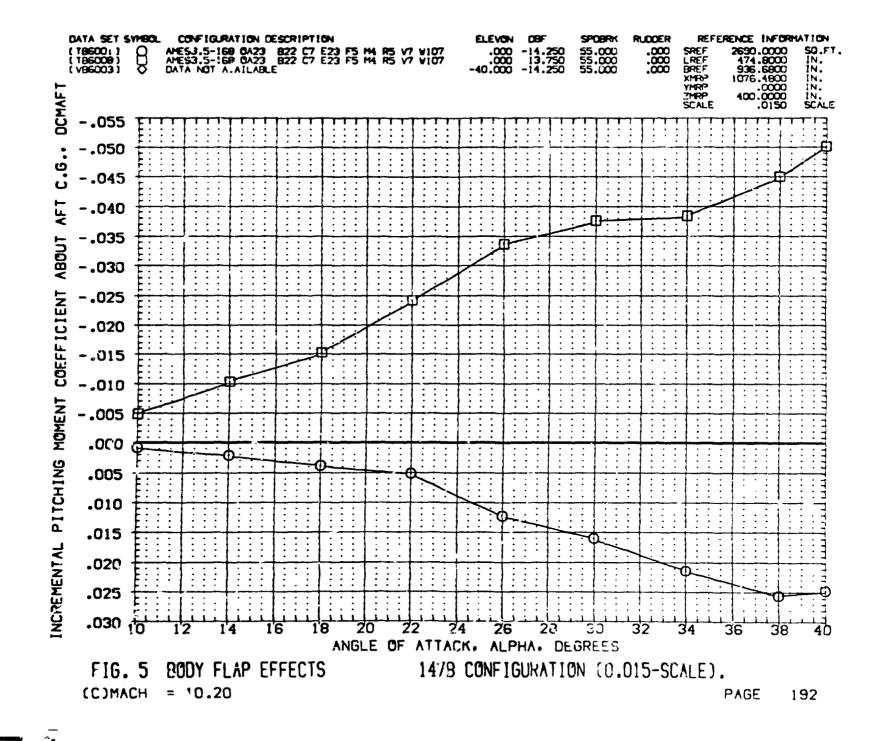


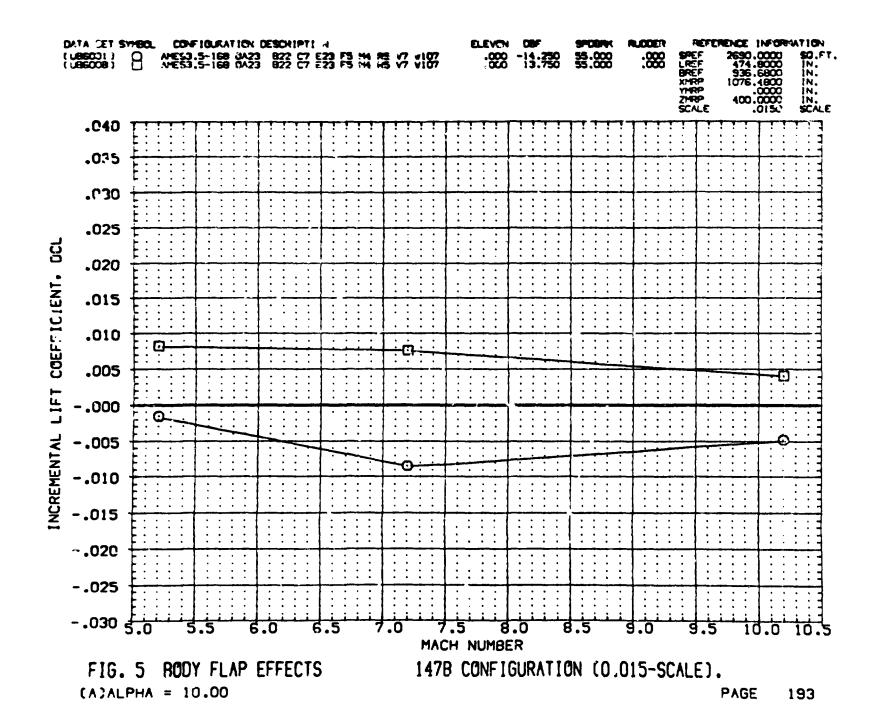


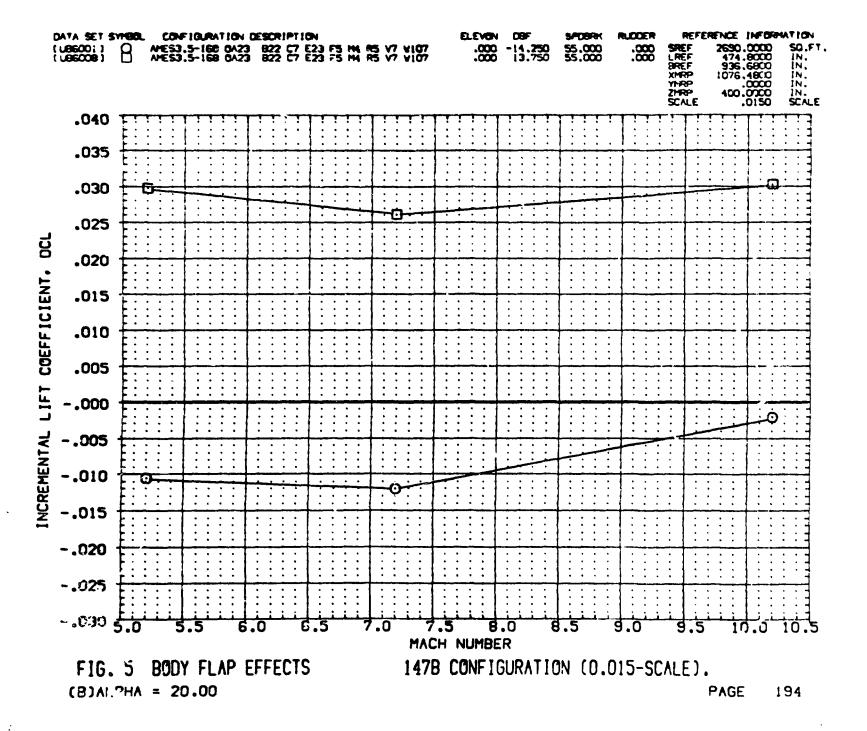


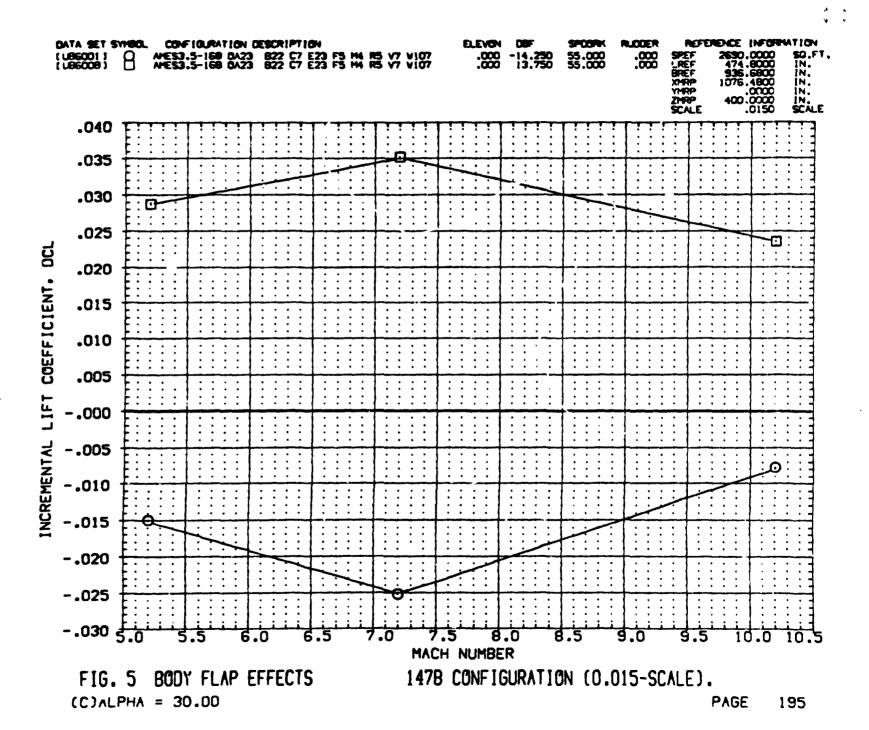


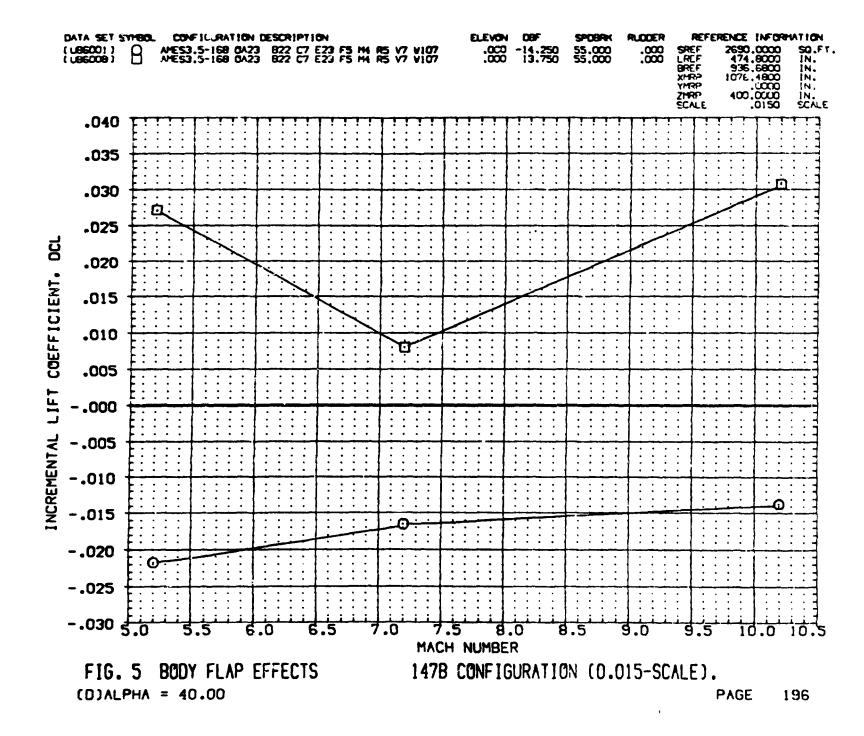


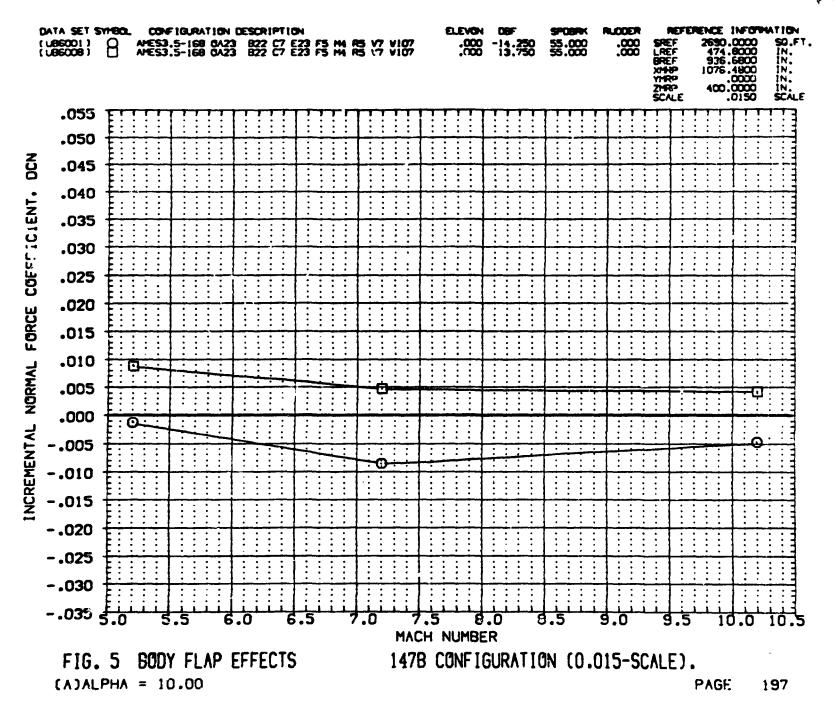


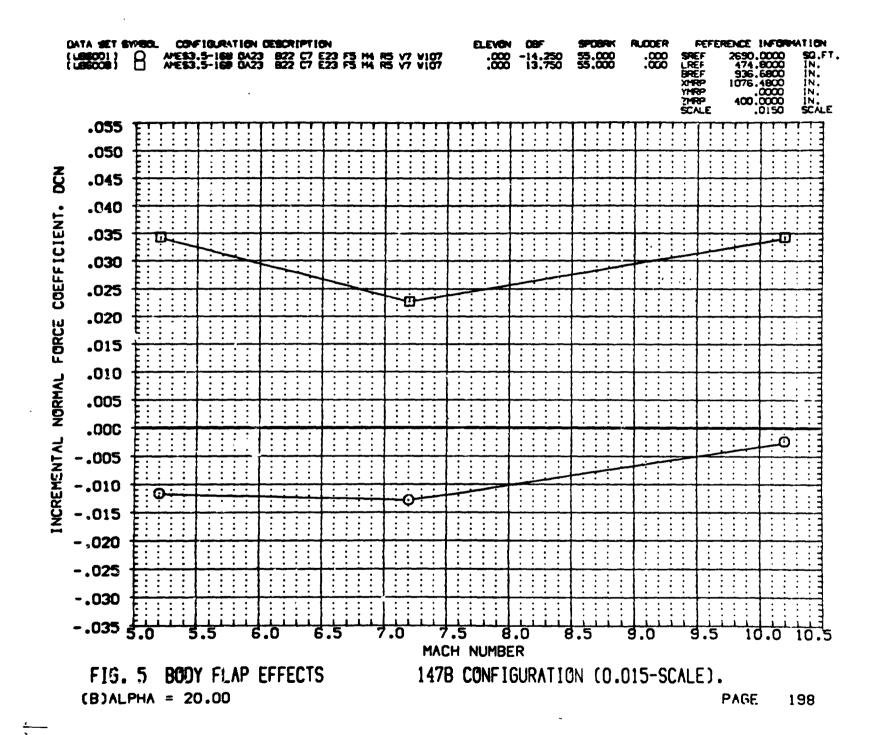


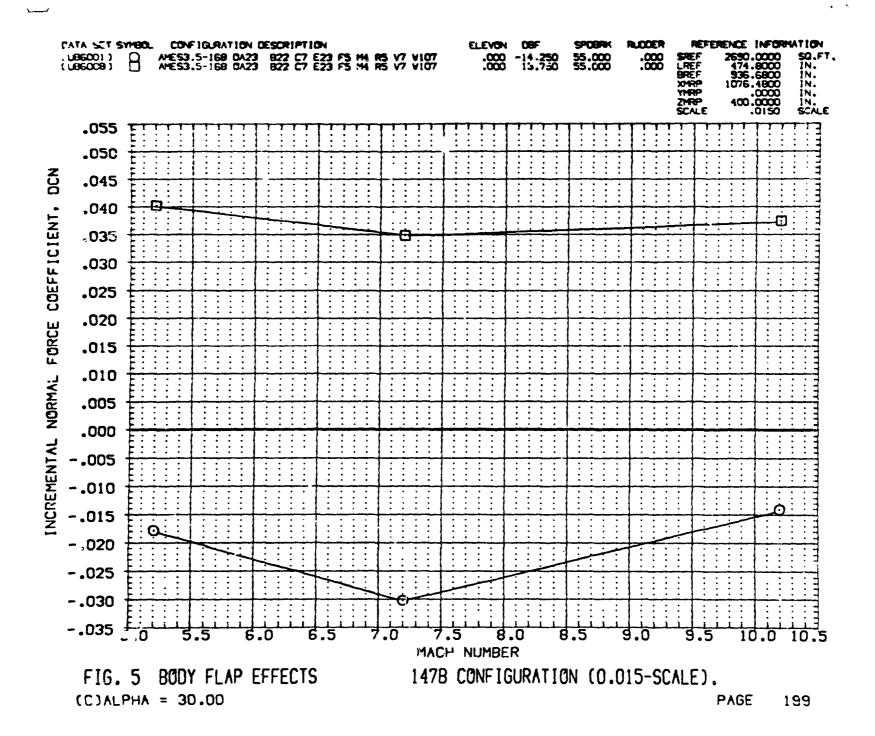


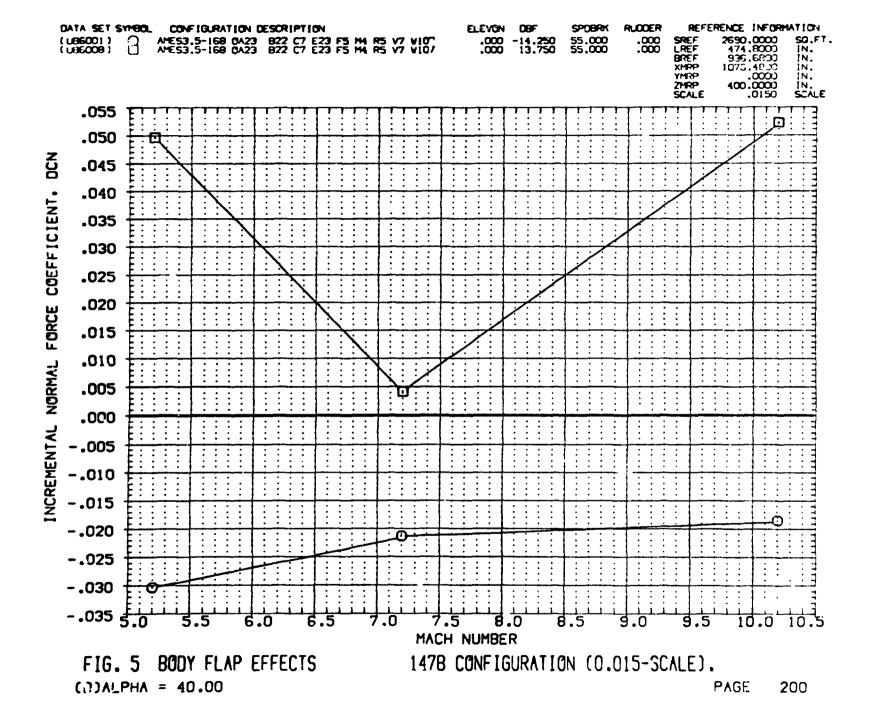


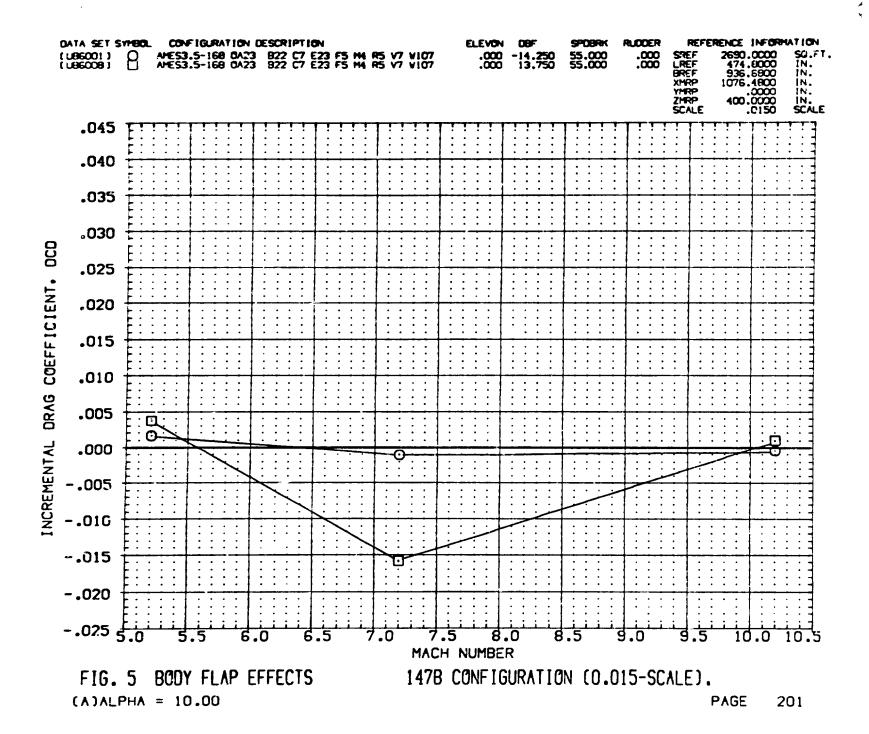


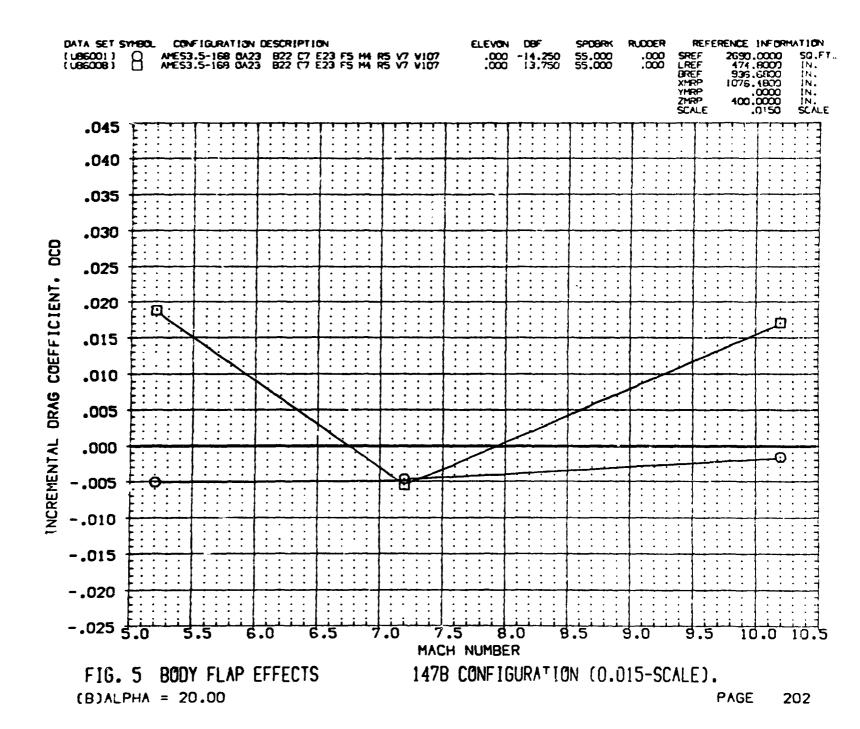


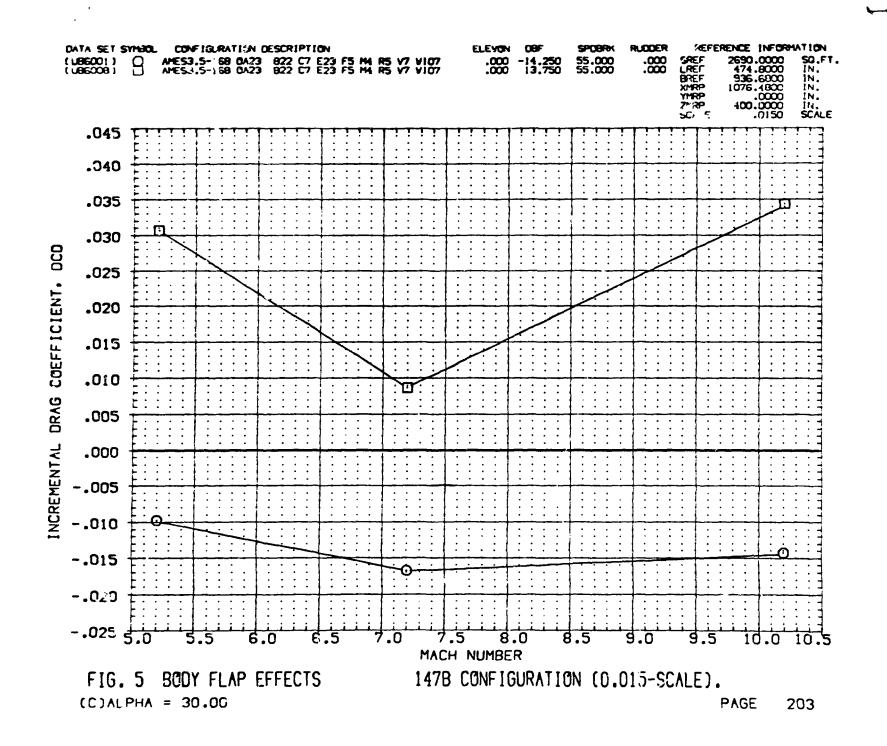


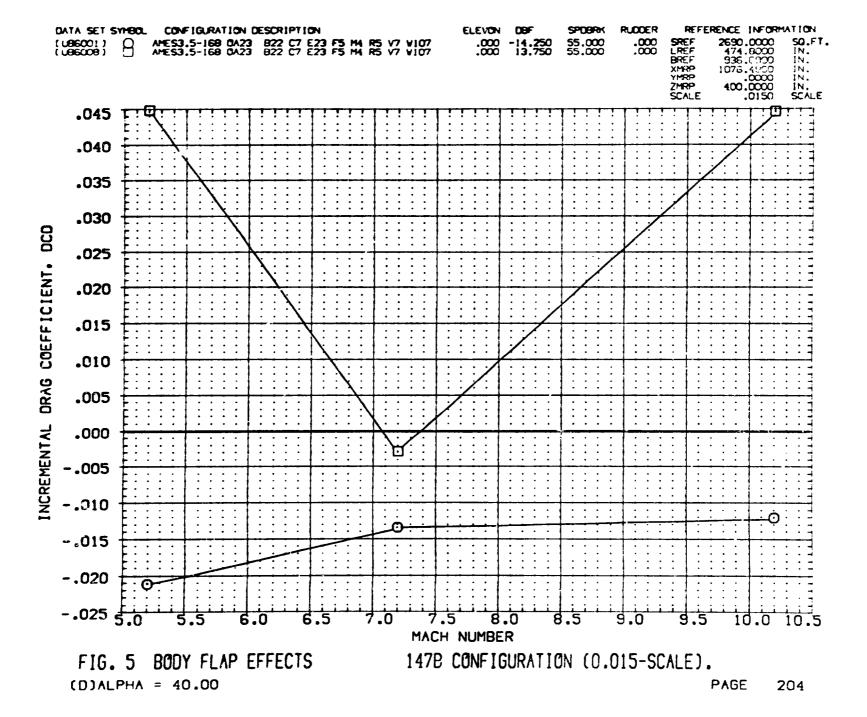




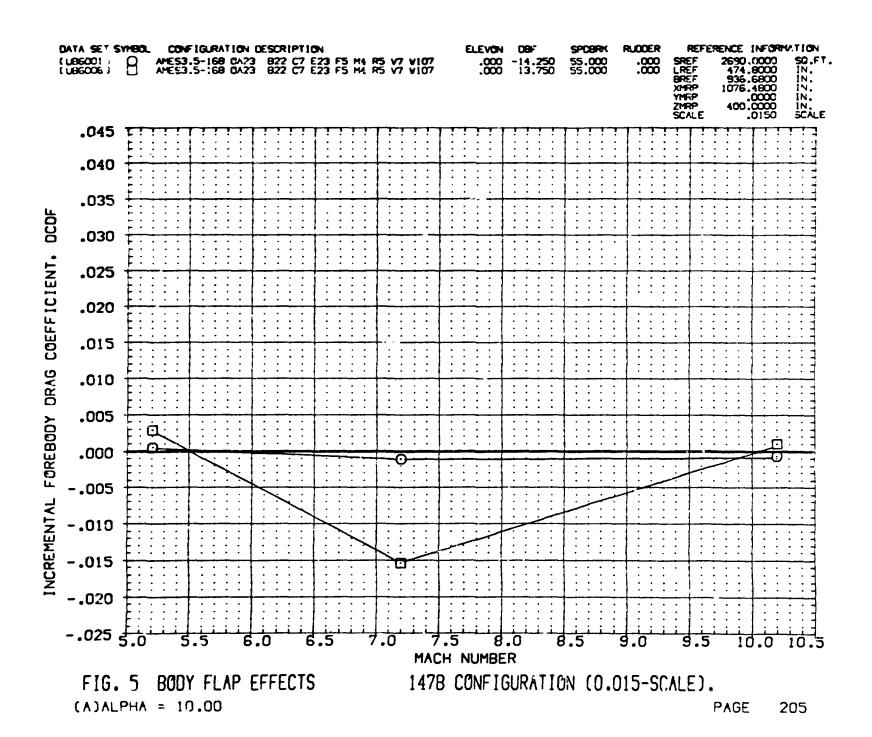


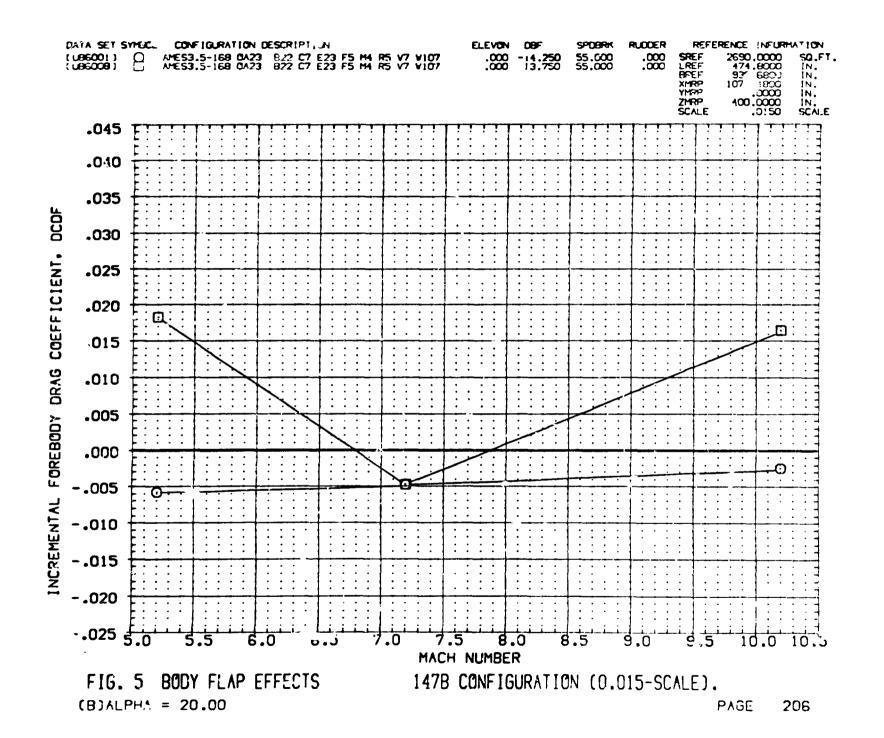


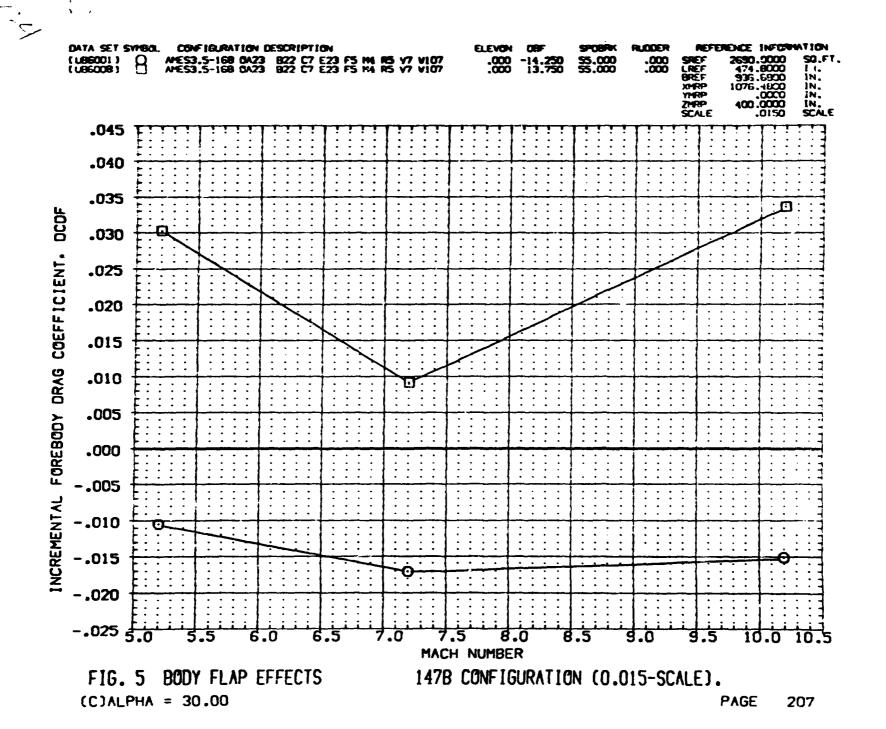


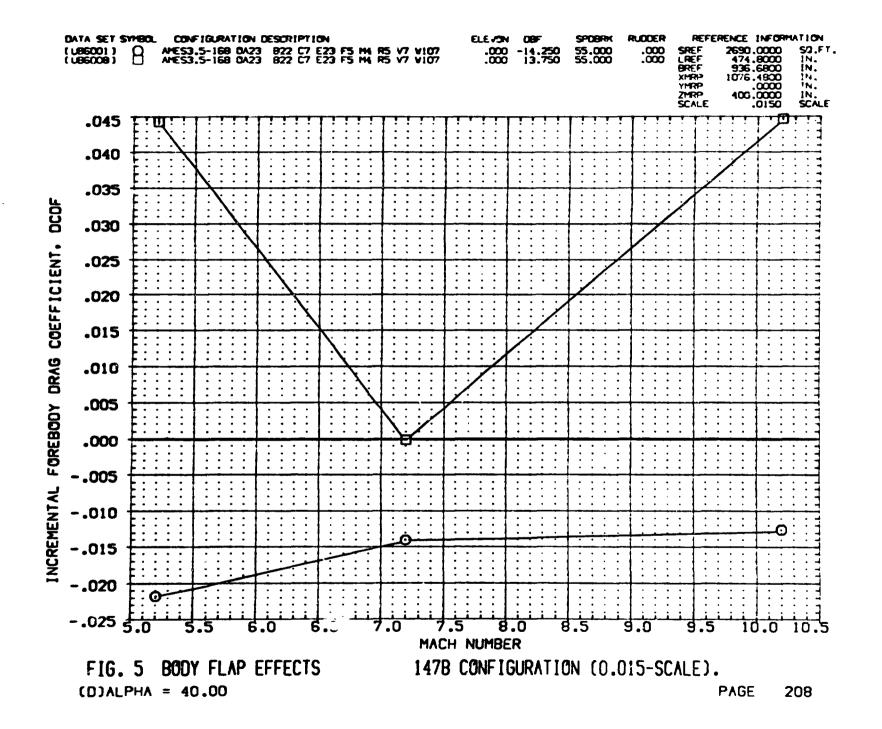


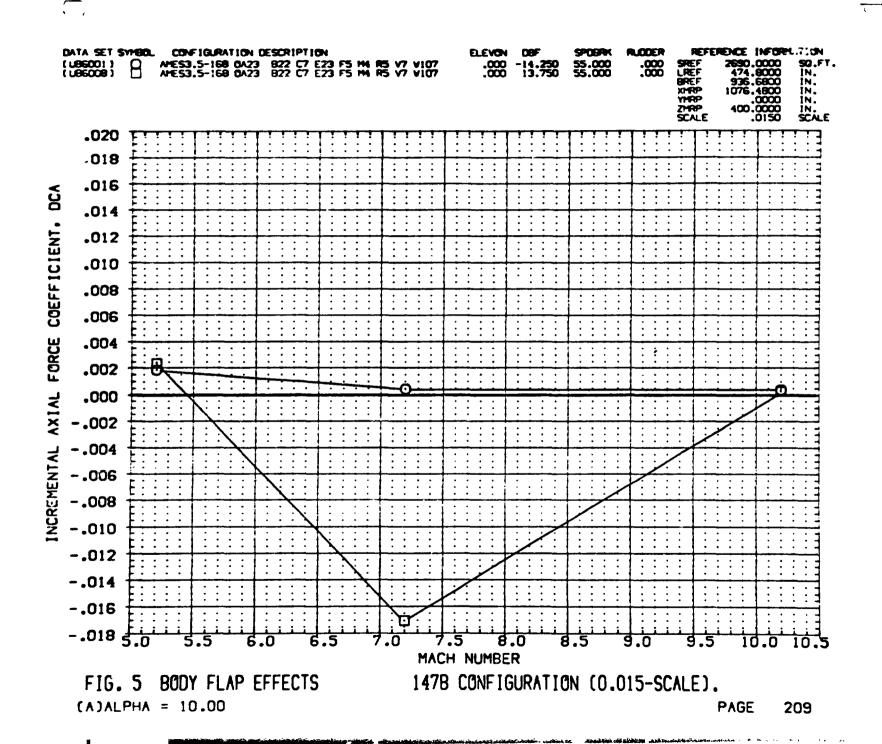






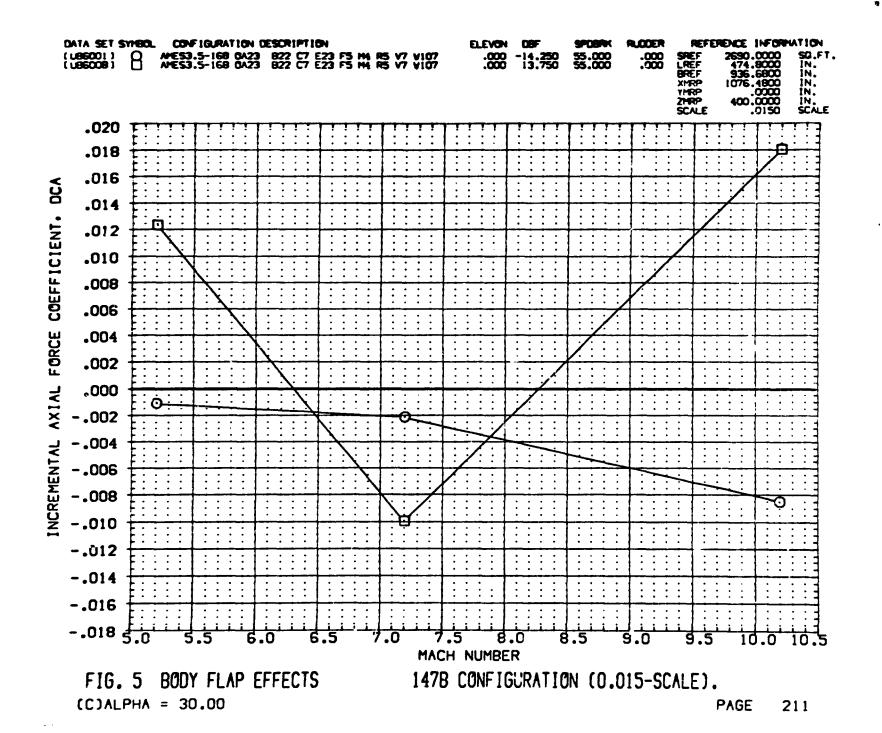


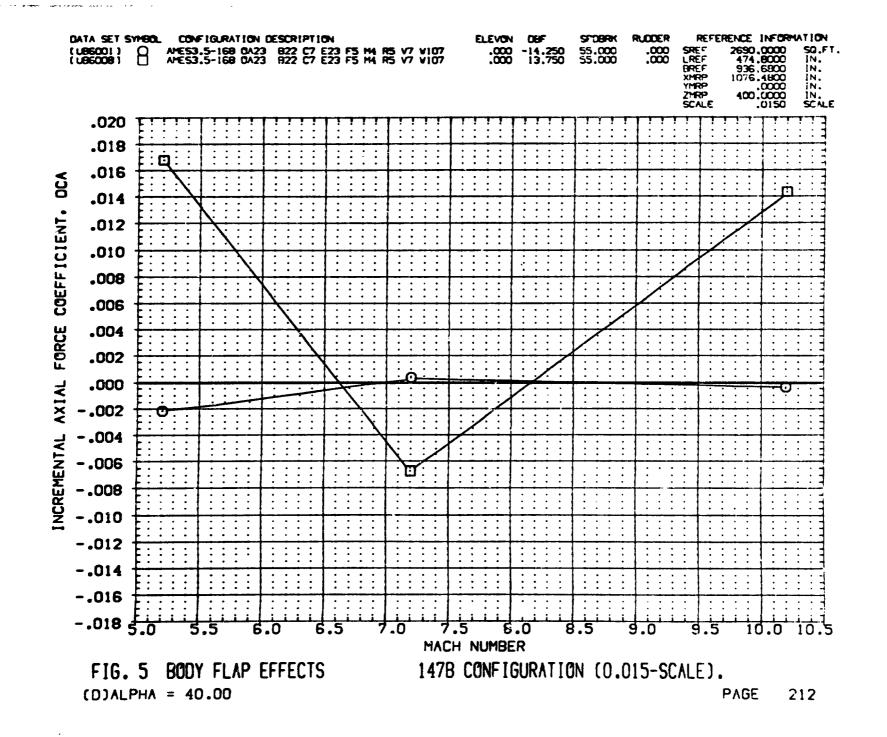




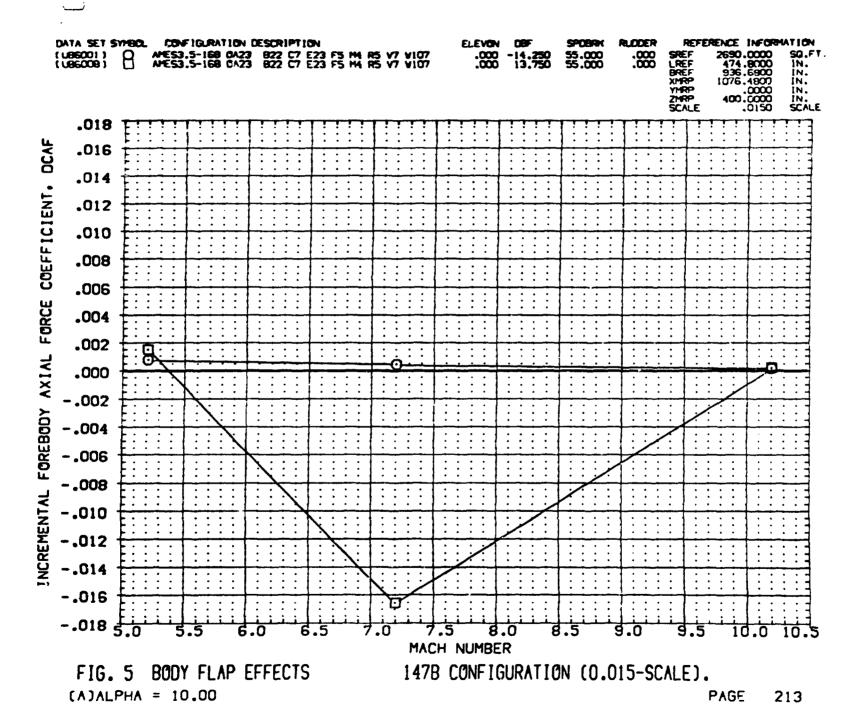
CONFIGURATION DESCRIPTION RUCCER REFERENCE INFORMATION SREF LREF BREF XMRP APES3.5-168 0A23 B22 C7 E23 F5 M4 R5 V7 V107 APES3.5-168 0A23 B22 C7 E23 F5 M4 R5 V7 V107 000. 000. IN. IN. .020 .018 .016 .014 COEFFICIENT. .012 .010 .008 .006 FORCE .004 .002 .000 -.002 -.004 -.006 -.008 -.010 -.012 -.014 -.016 -.018 5.0 9.0 17.0 10.5 MACH NUMBER FIG. 5 BODY FLAP EFFECTS 147B CONFIGURATION (0.015-SCALE). (8)ALPHA = 20.00PAGE 210

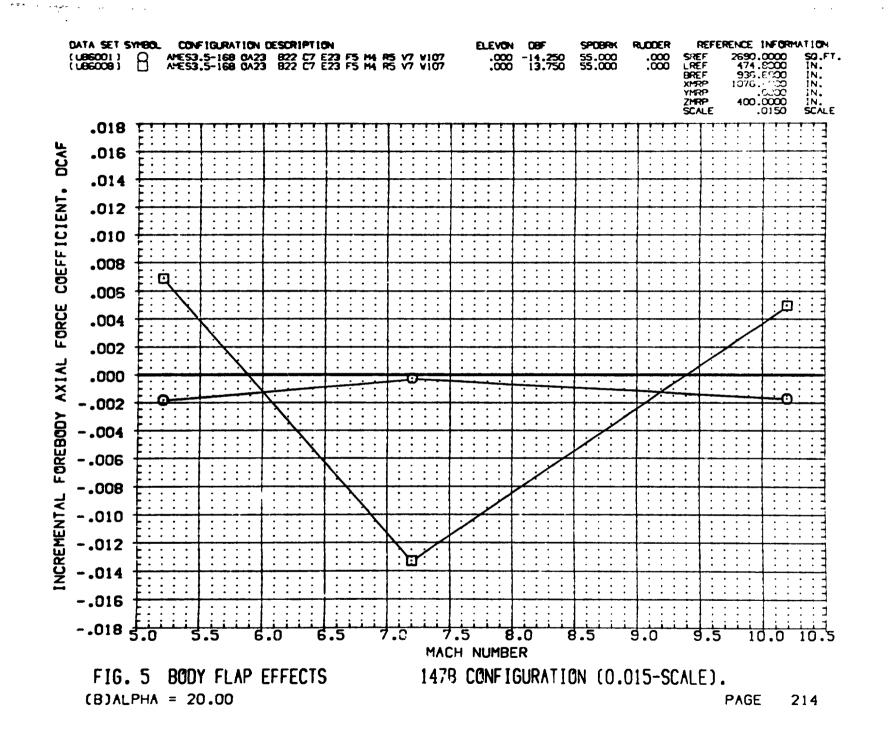
Sales and a secondarial second the sales

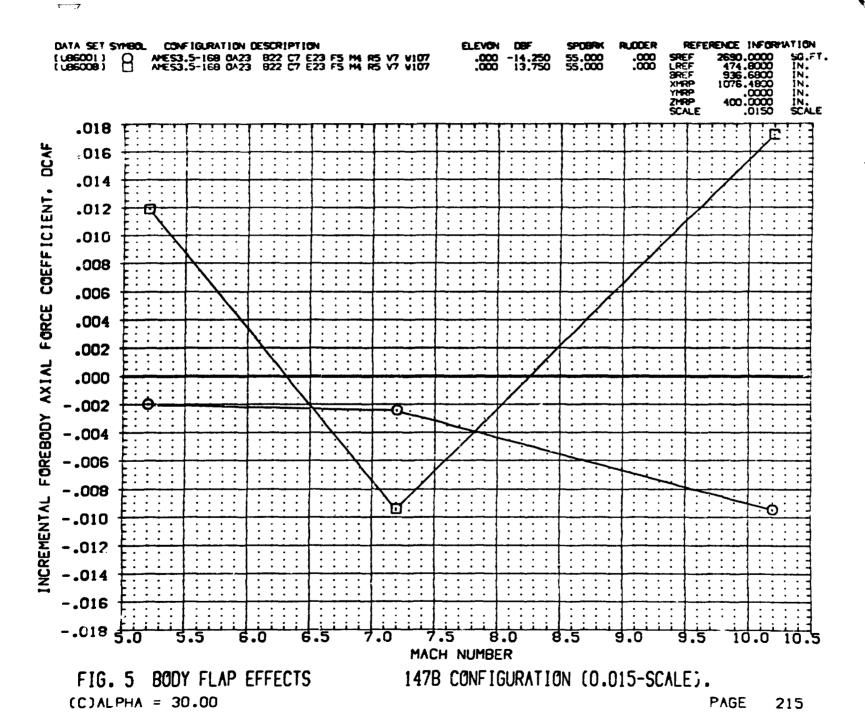


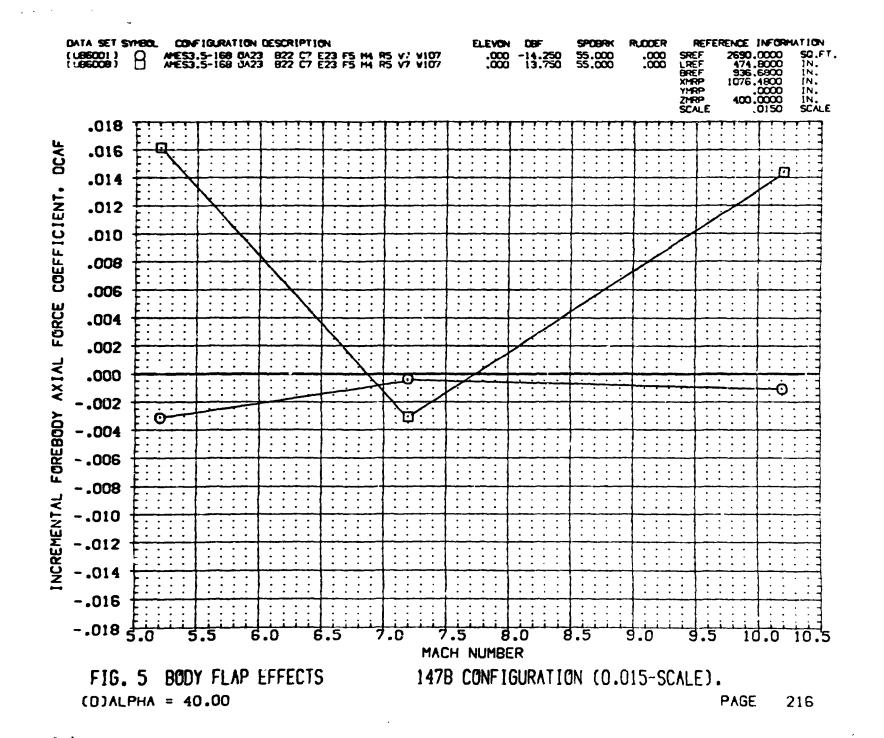


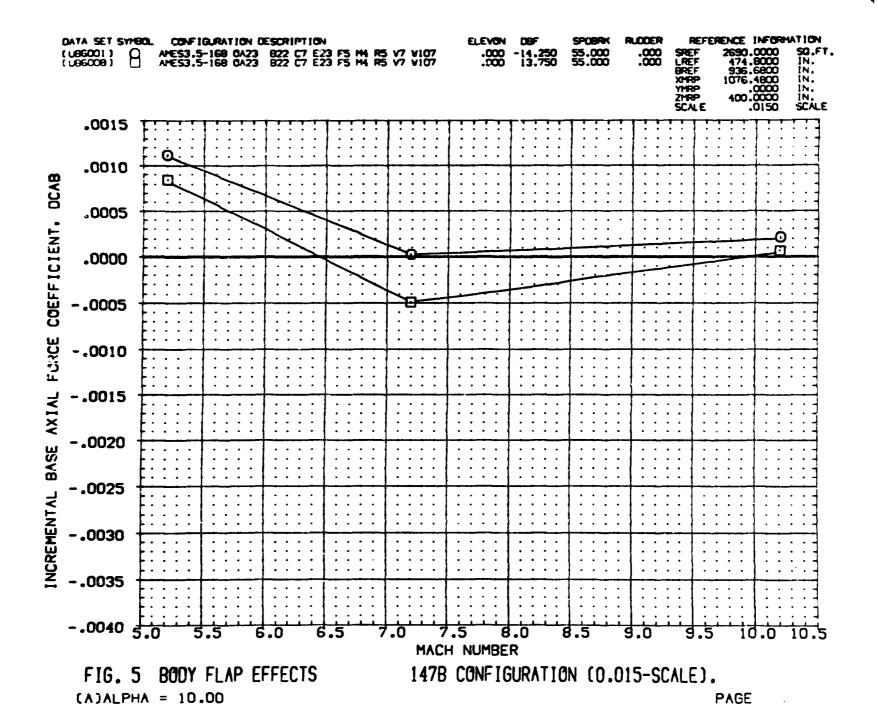


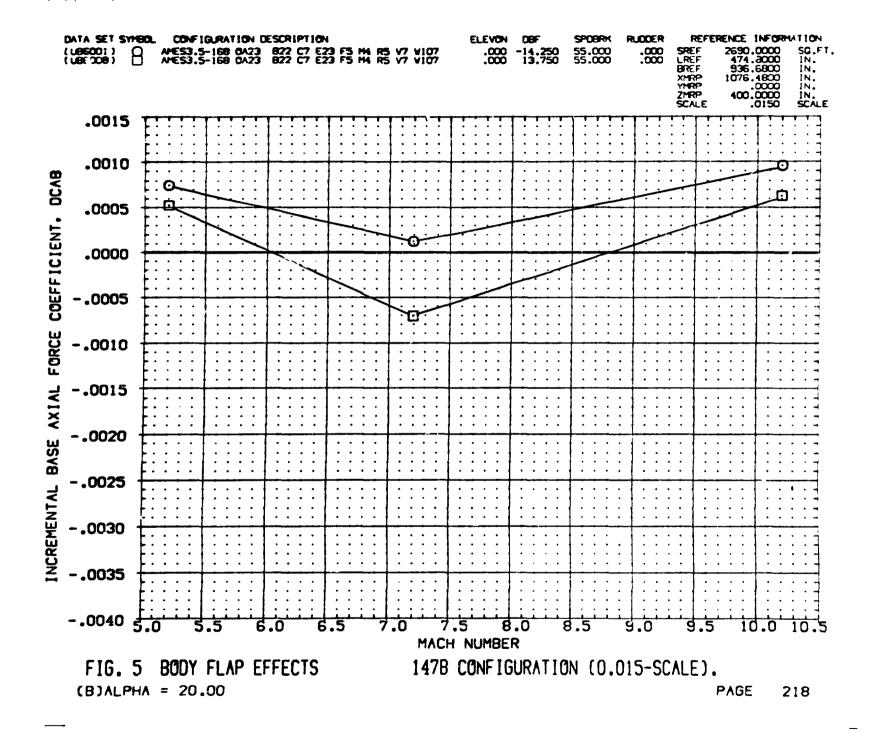


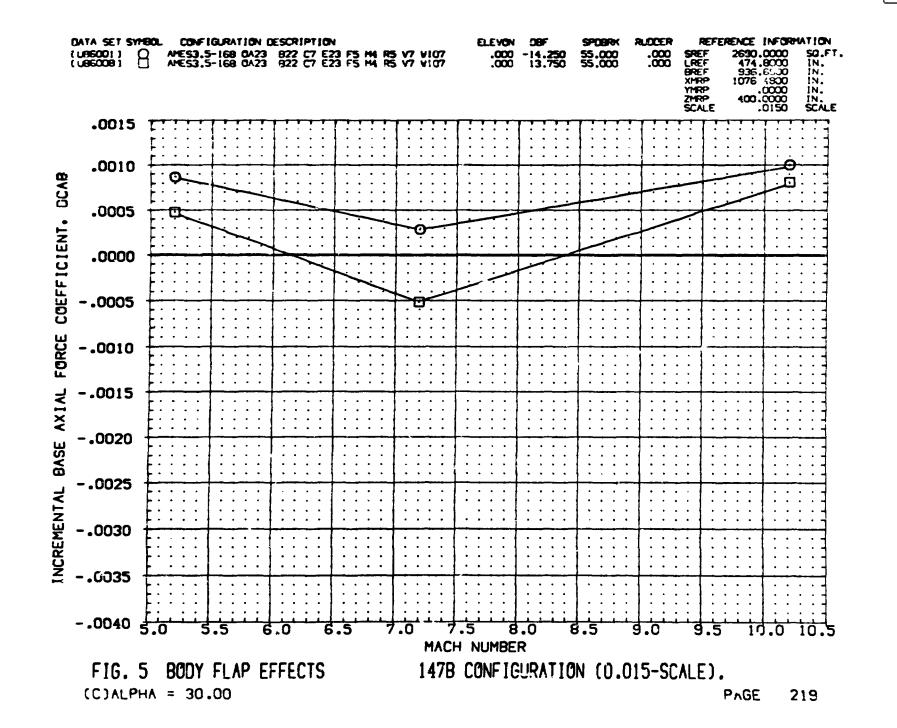


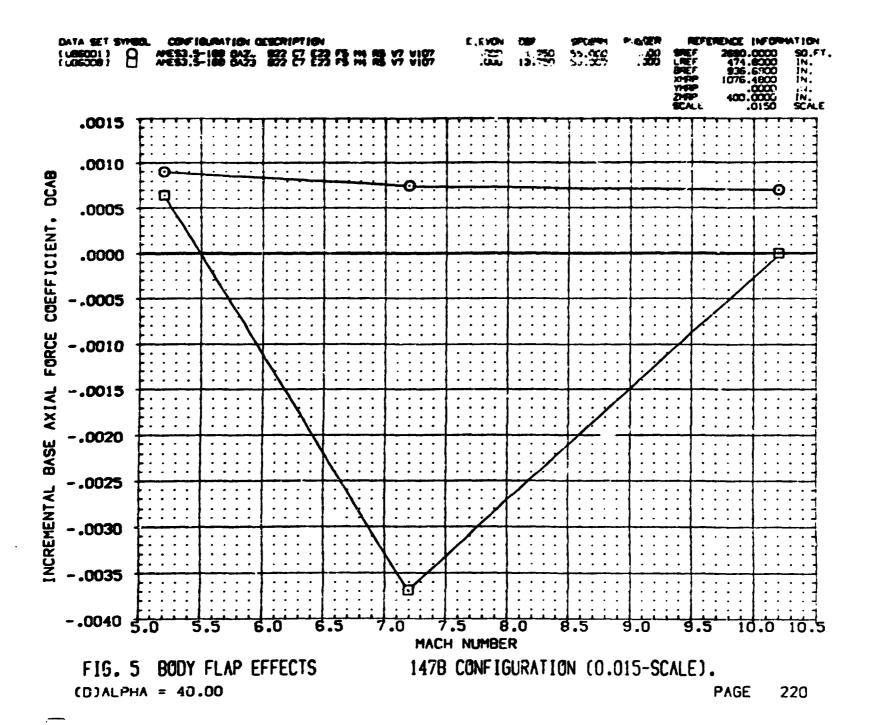


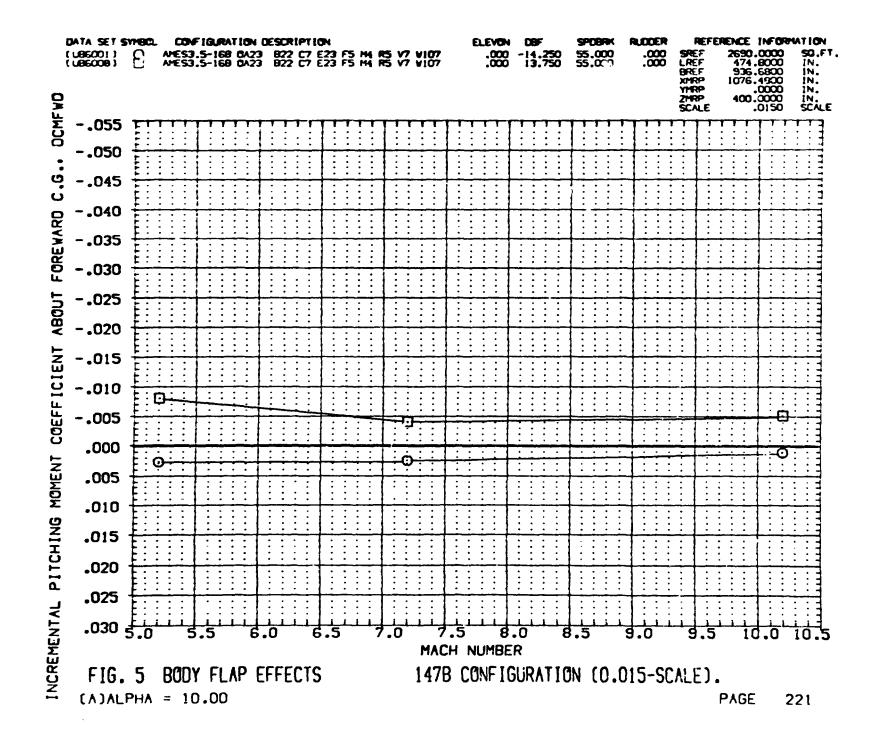


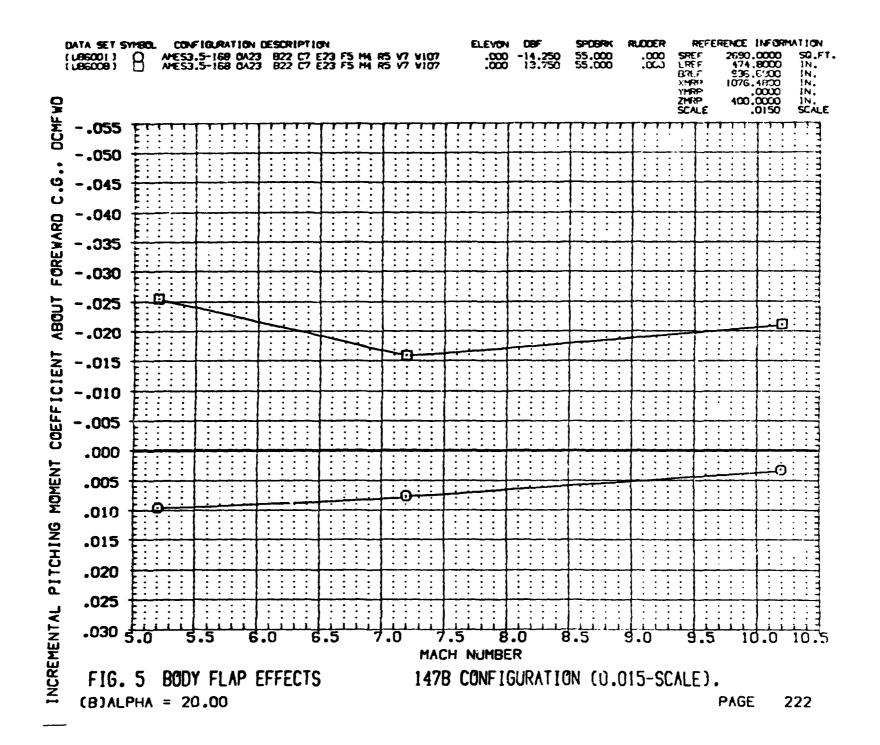


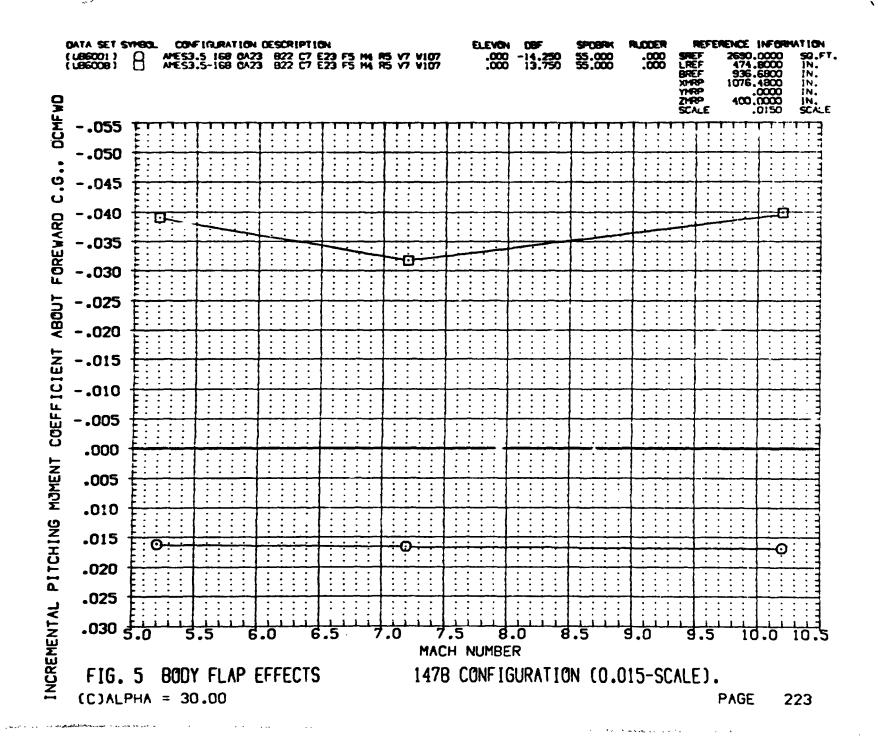


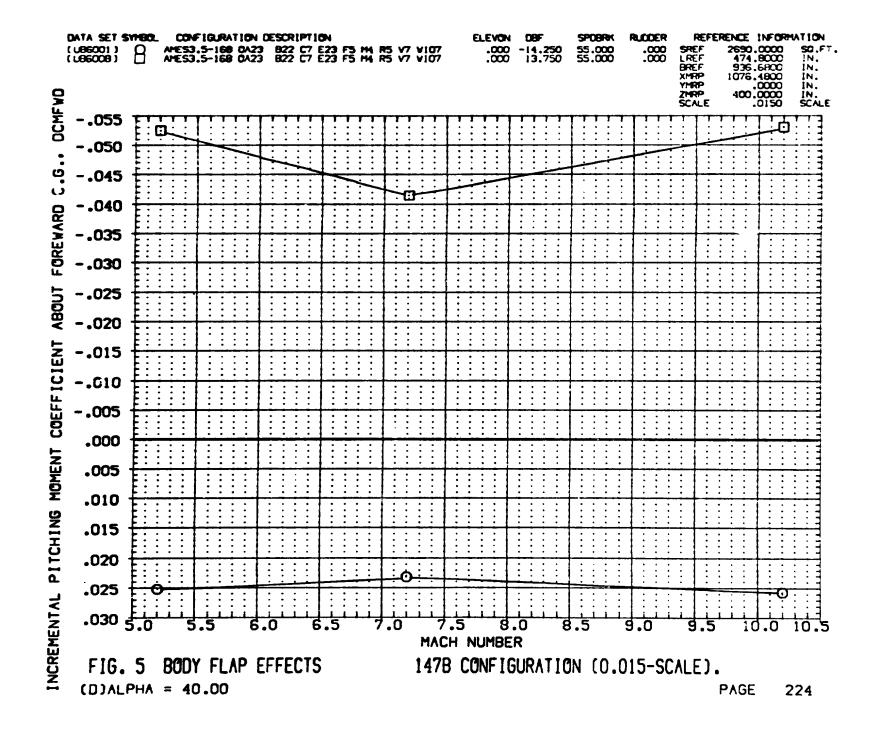


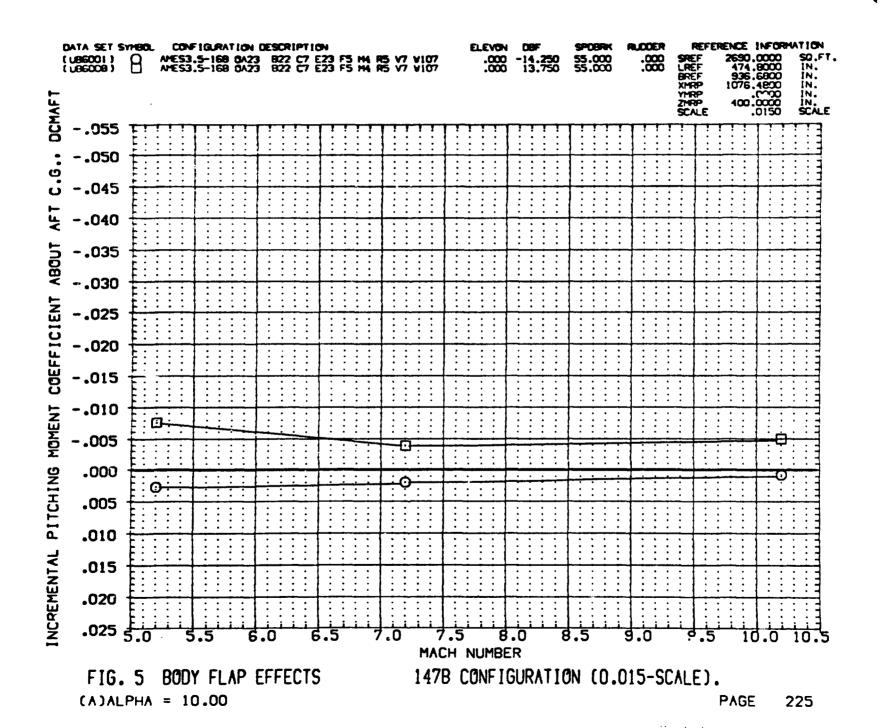


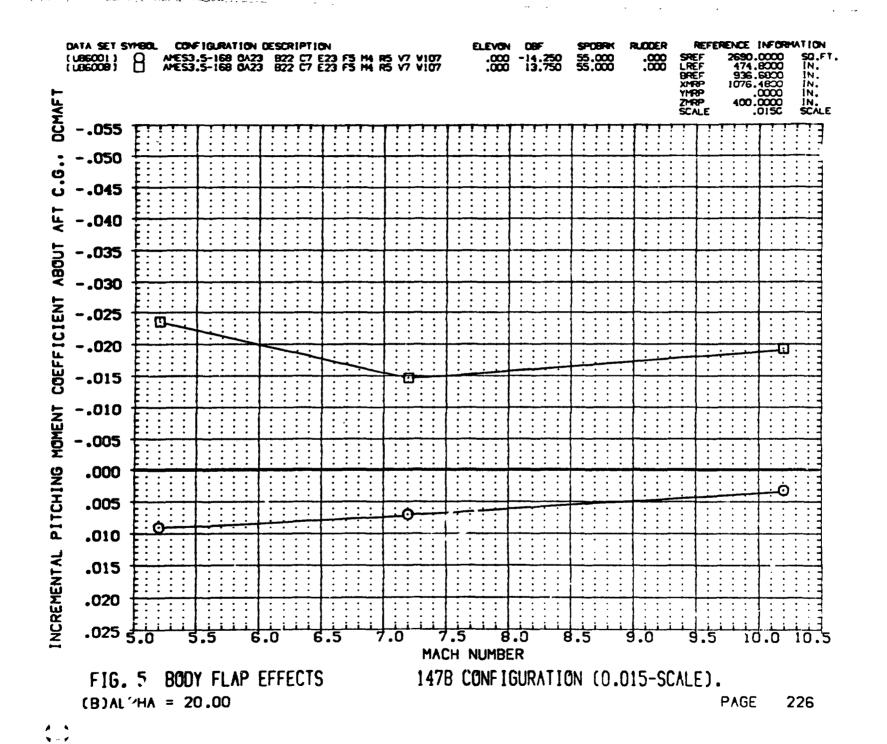


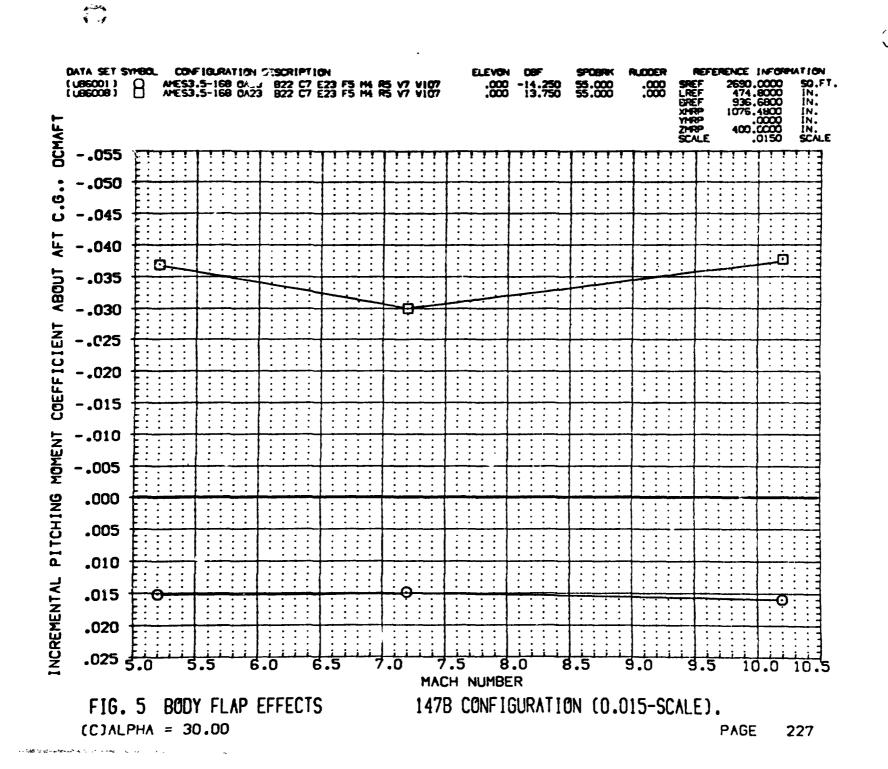


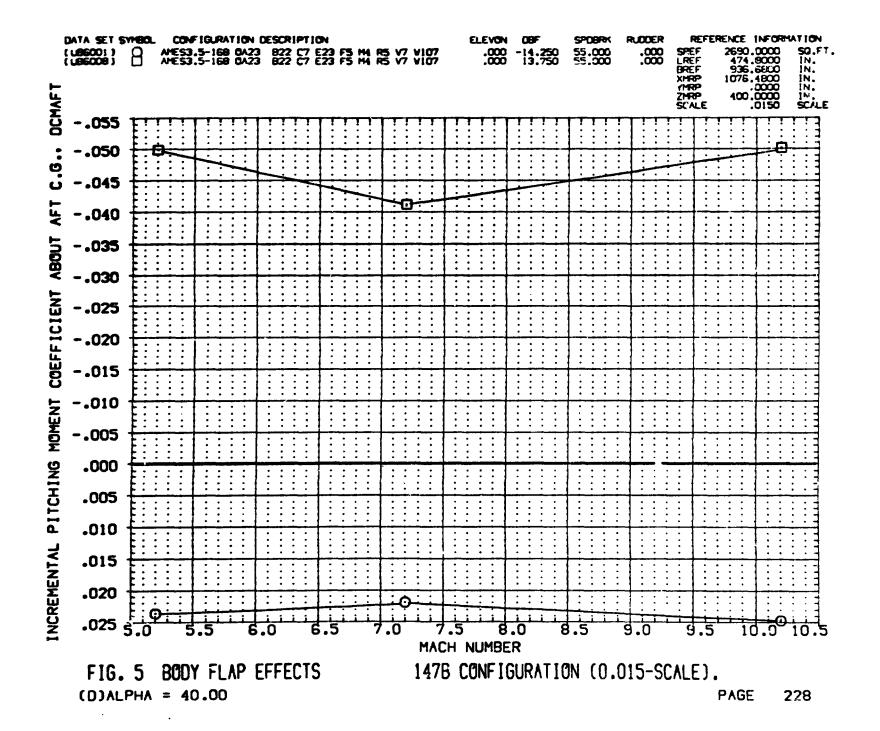




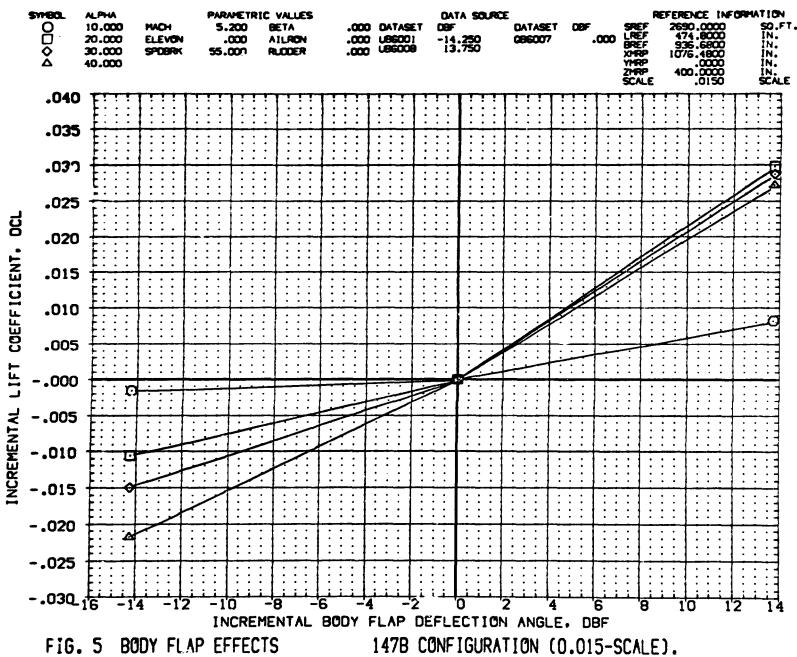


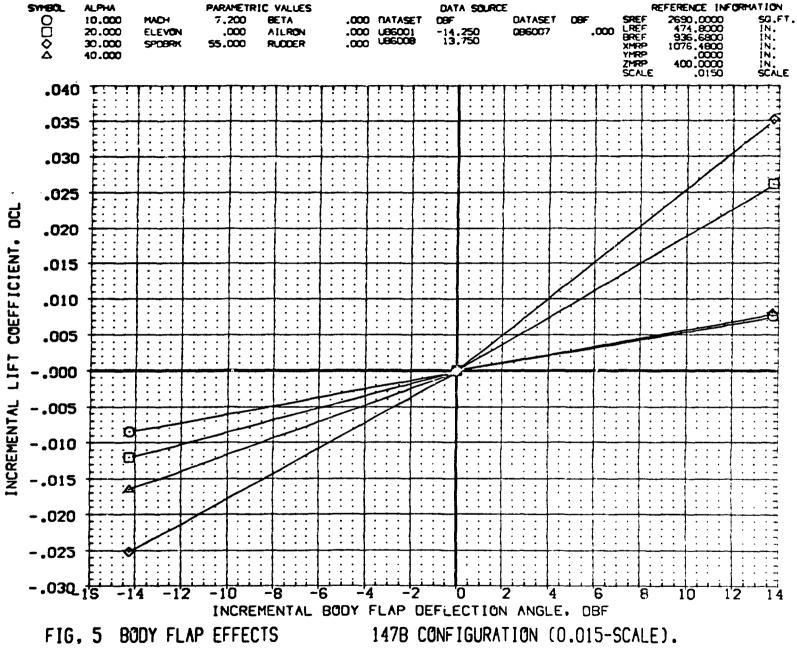






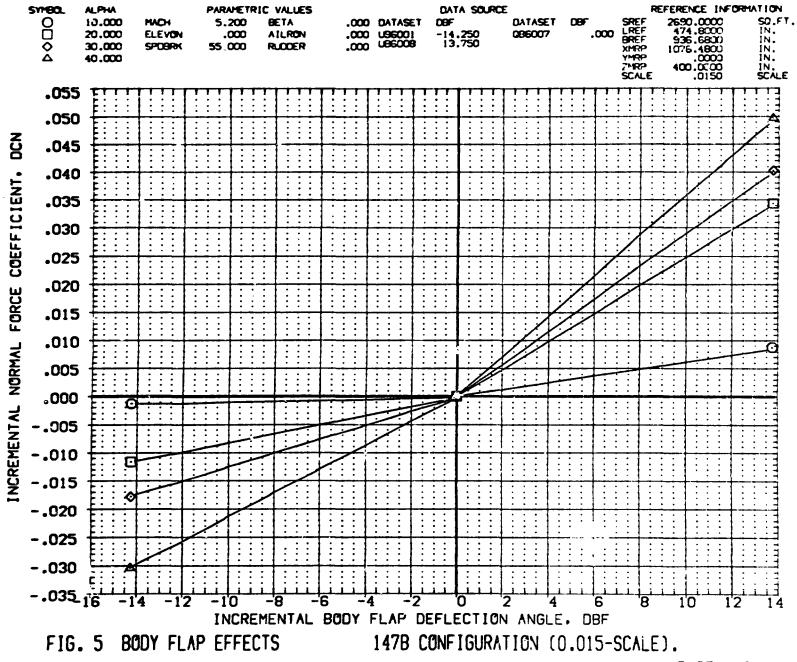
1 1

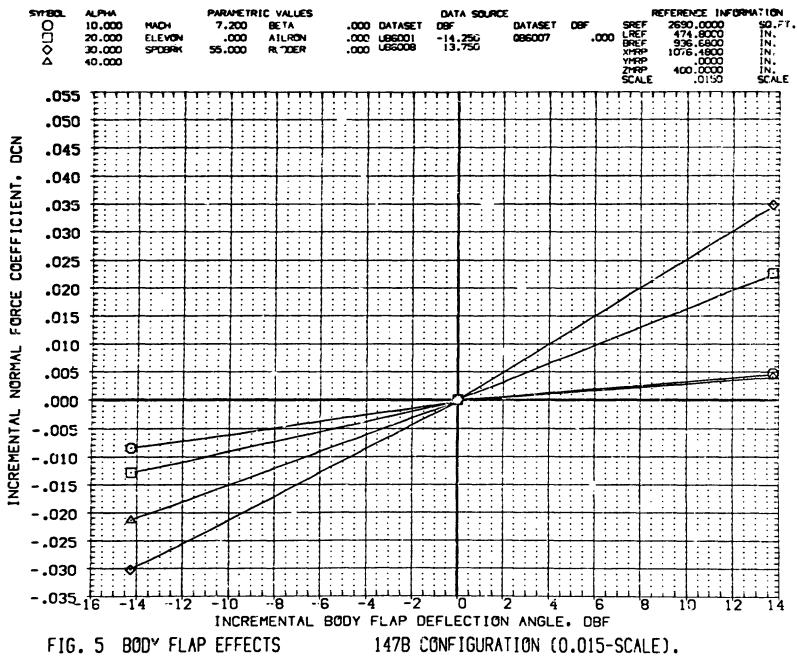


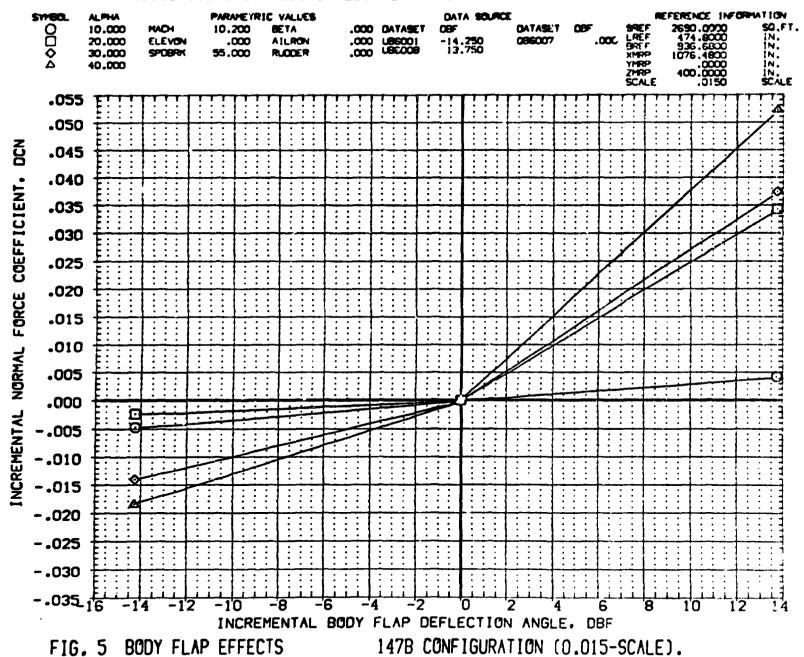


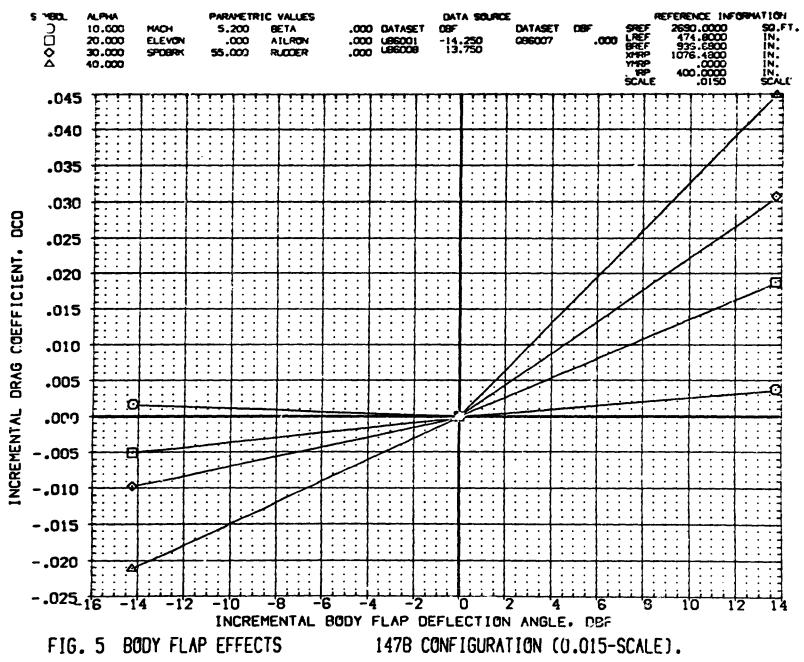
#### AMES3.5-168 0A23 B22 C7 E23 F5 M4 R5 V7 W107 (UB6001) REFERENCE INFORMATION SYMBOL ALPHA PARAMETRIC VALUES DATA SOURCE 2690.0000 474.8000 936.6800 1076.4800 .0000 400.0000 .0150 SO.FT. IN. IN. IN. 0000 10.000 HACH 10.200 BETA .000 DATASET OBF DATASET U86001 U86008 20.000 QB6007 ELEVON .000 AILRON -14.250 13.750 30.000 SPOBRK 55.000 RLOCER .000 40.000 IN. SCALE .040 FT! .035 .030 .025 .020 COEFFICIENT. .015 .010 .005 -.000 INCREMENTAL -.005 -.010 -.015 -.020 -.025 INCREMENTAL BODY FLAP DEFLECTION ANGLE, DBF FIG. 5 BODY FLAP EFFECTS 147B CONFIGURATION (0.015-SCALE).

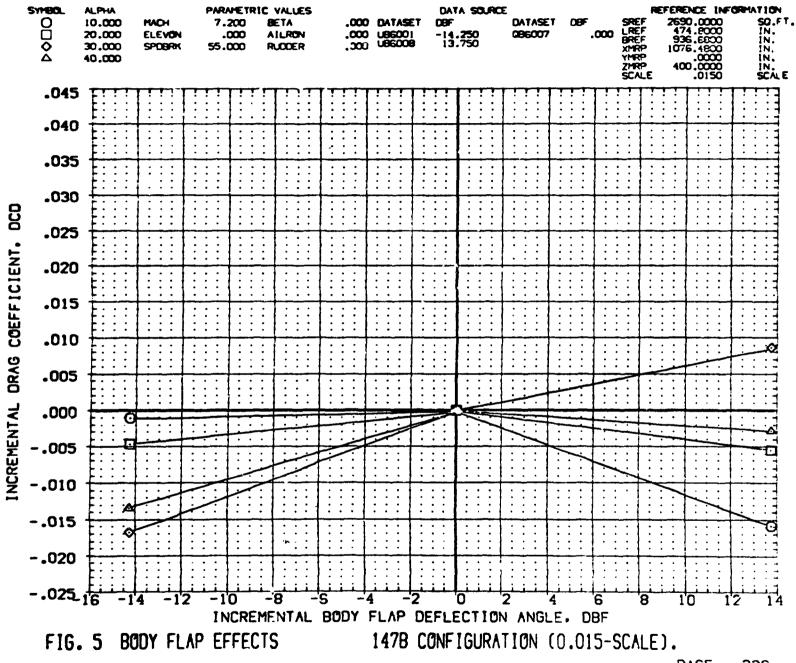
\* \*



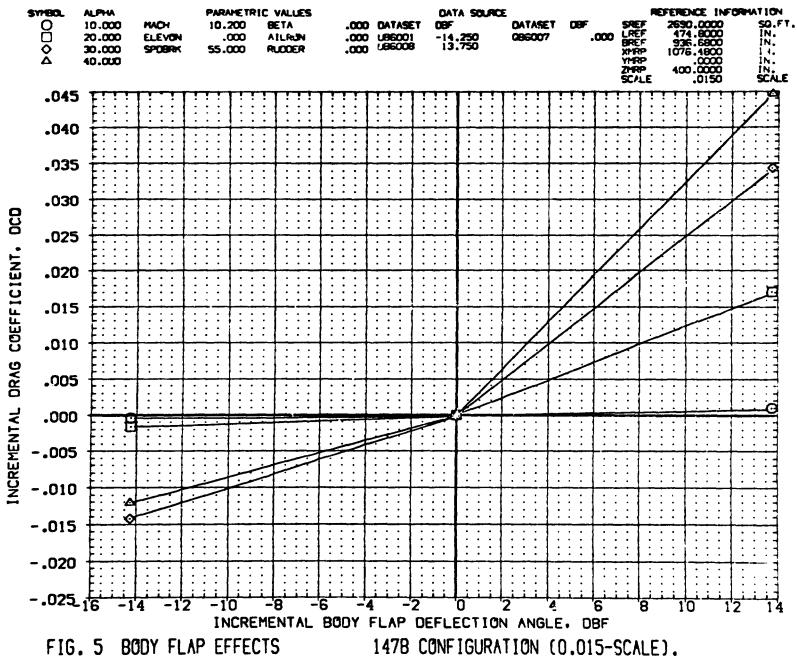


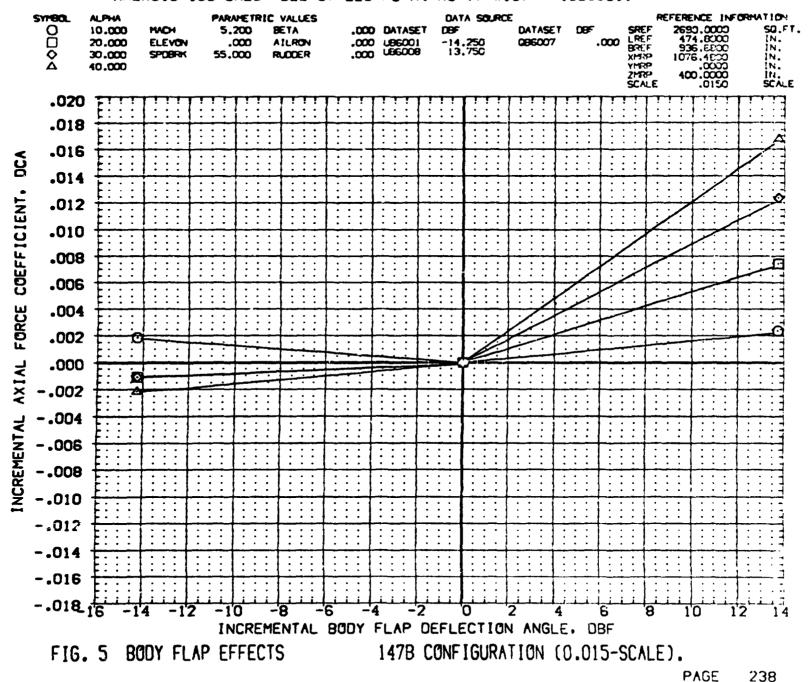


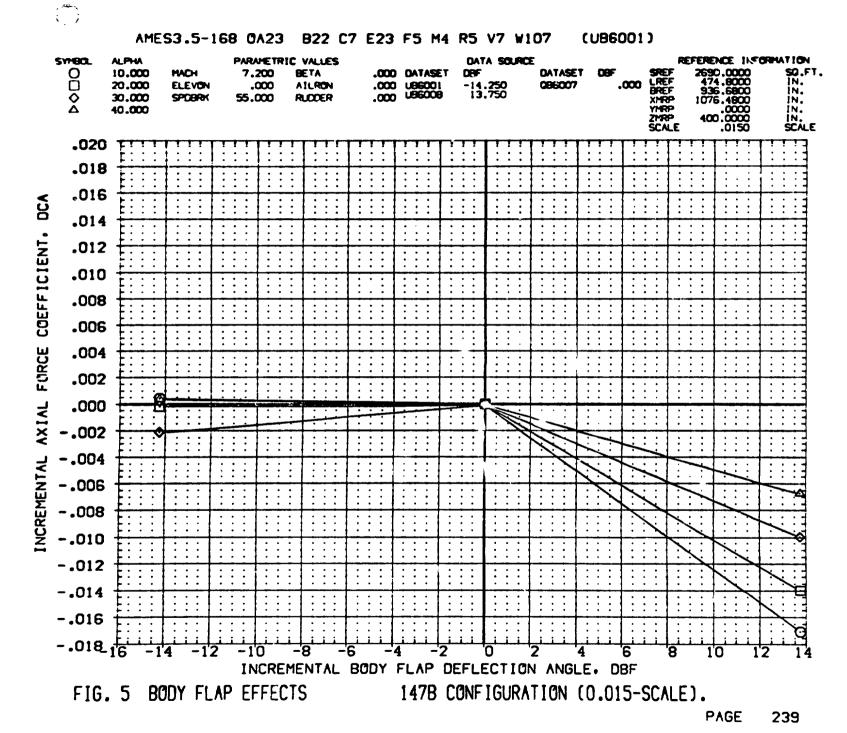




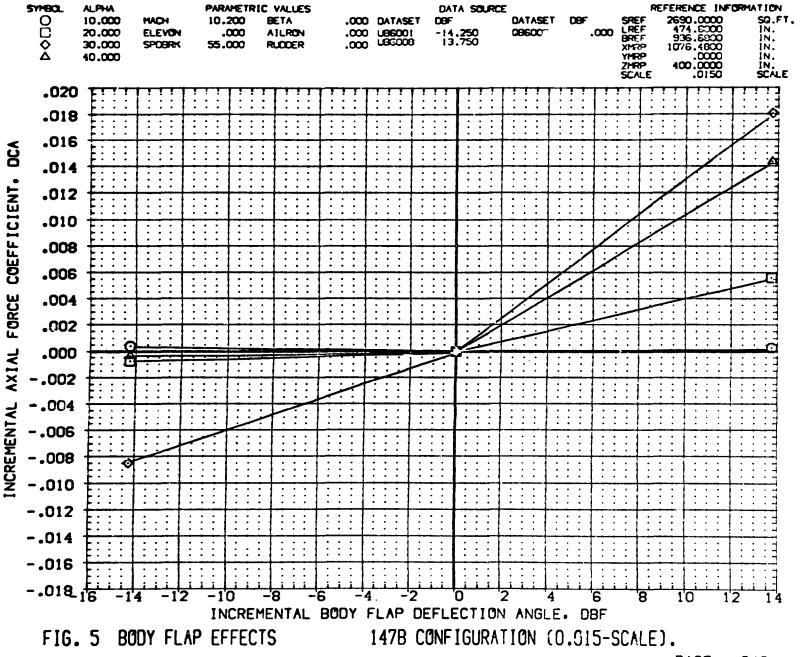
( 16 ) ( )



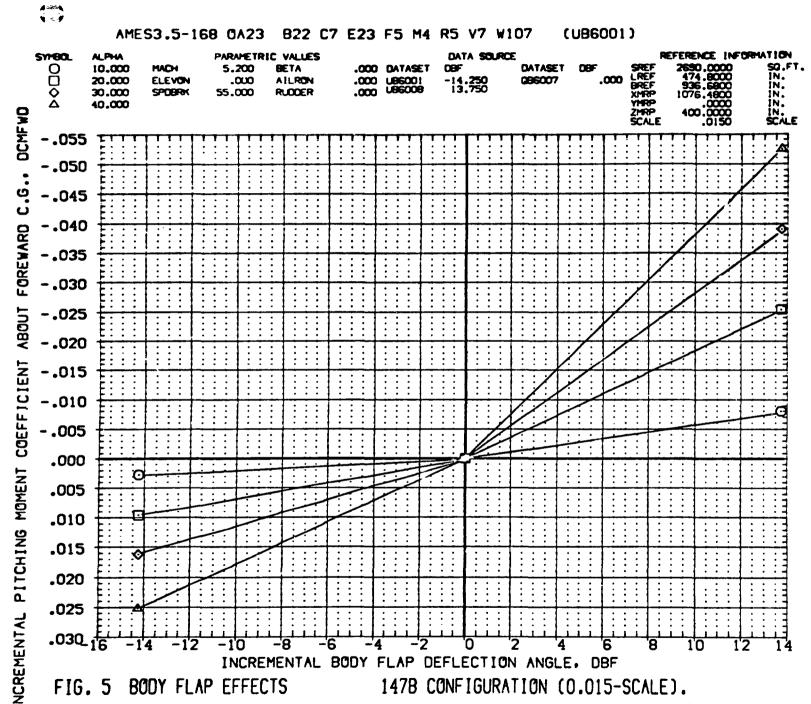




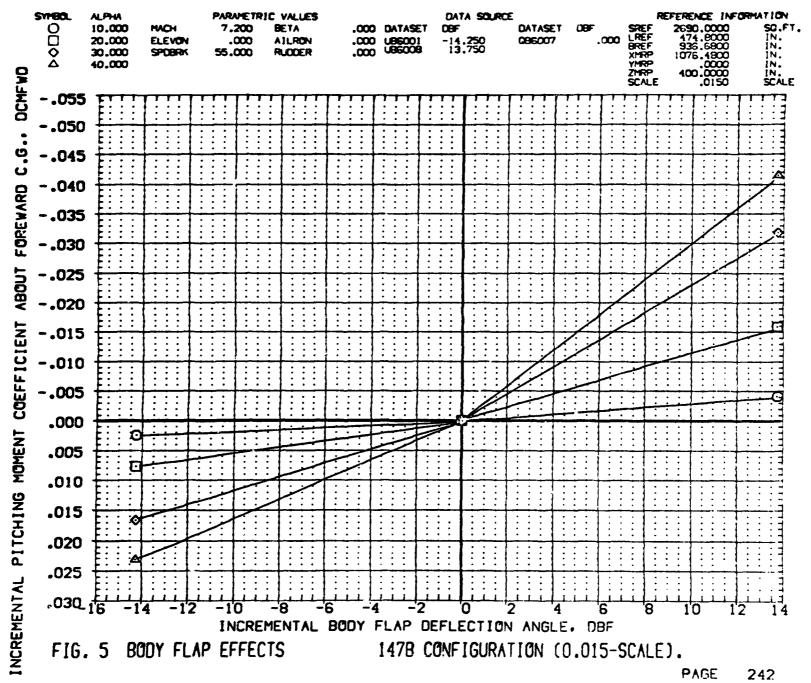
AMES3.5-168 0A23 B22 C7 E23 F5 M4 R5 V7 W107 (UB6001)

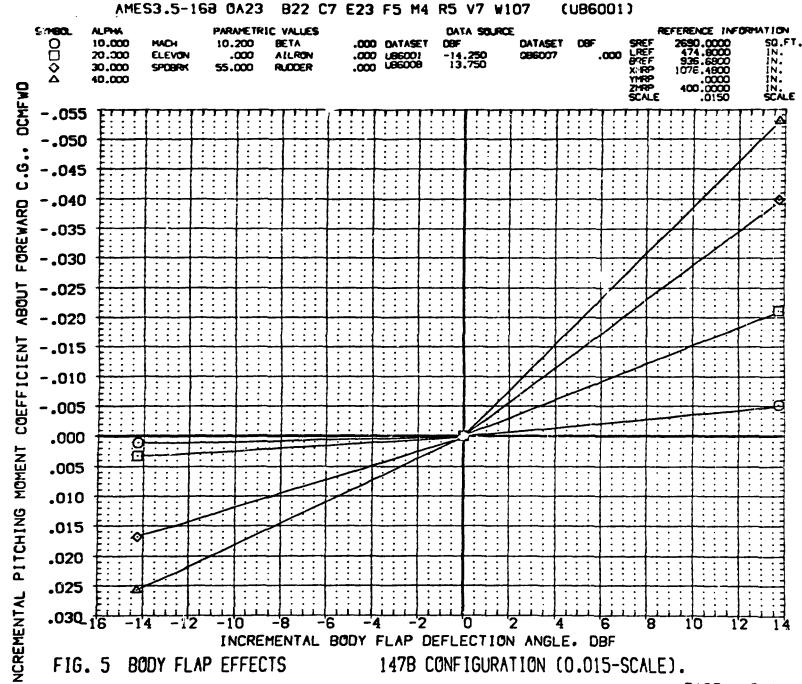




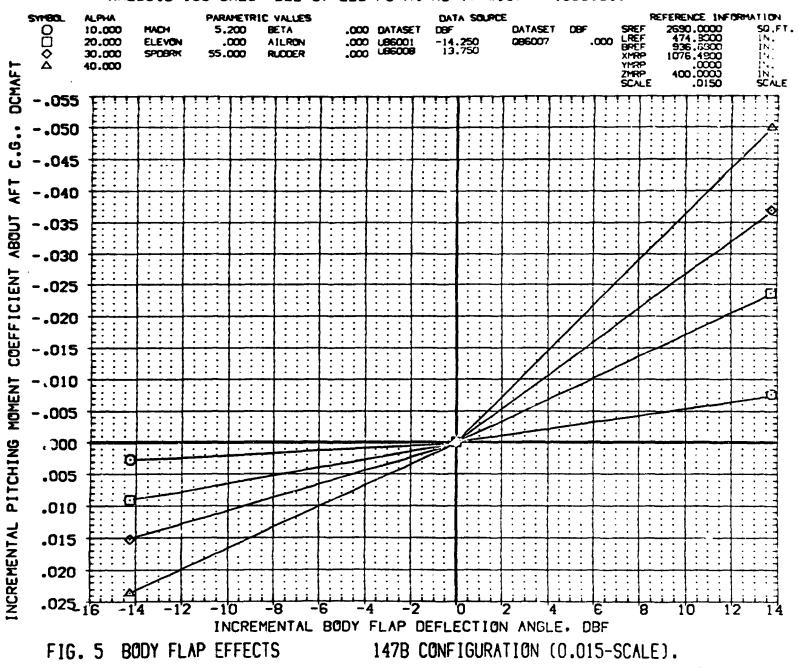


AMES3,5-168 0A23 B22 C7 E23 F5 M4 R5 V7 W107 (UB6001)

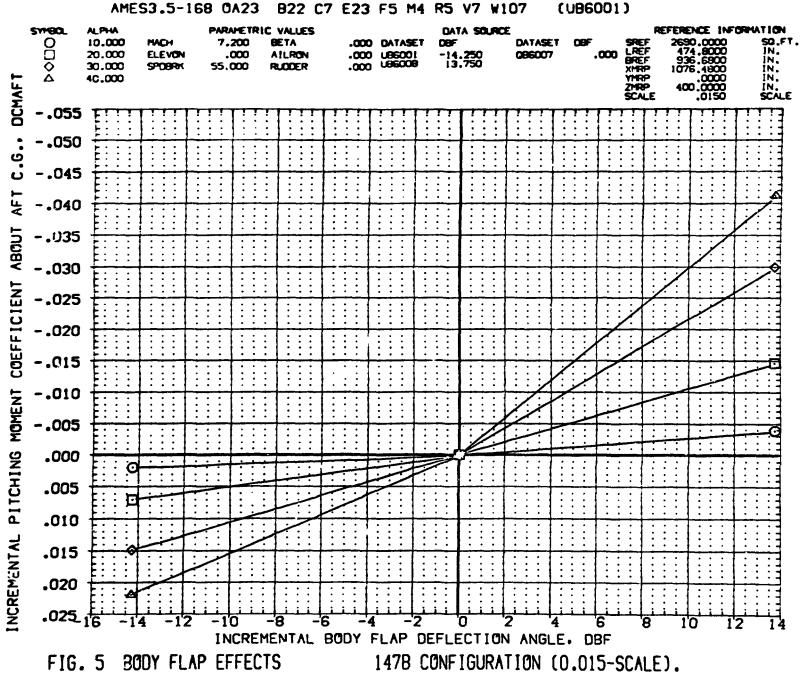




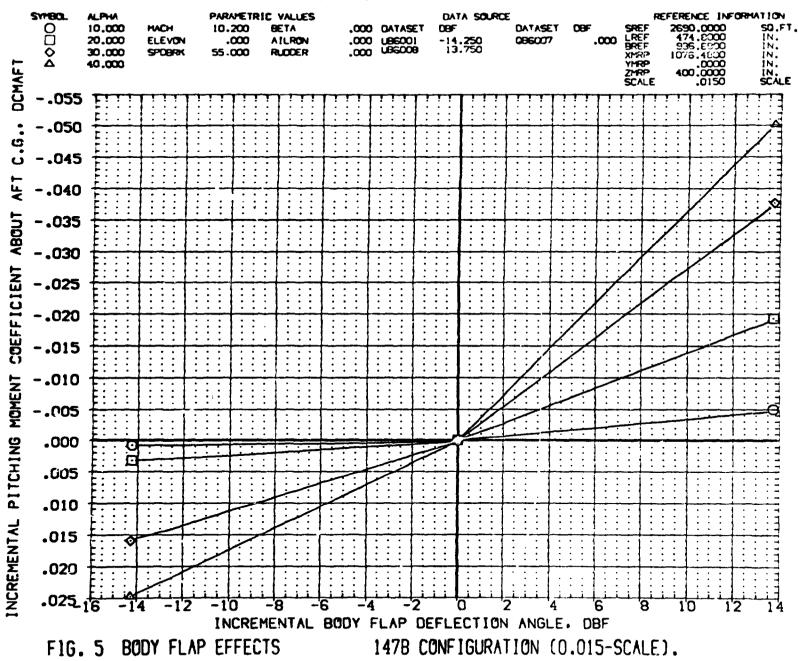
## AMES3.5-168 0A23 B22 C7 E23 F5 M4 R5 V7 W107 (UB6001)







## AMES3.5-168 0A23 B22 C7 E23 F5 M4 R5 V7 W107 (UB6001)

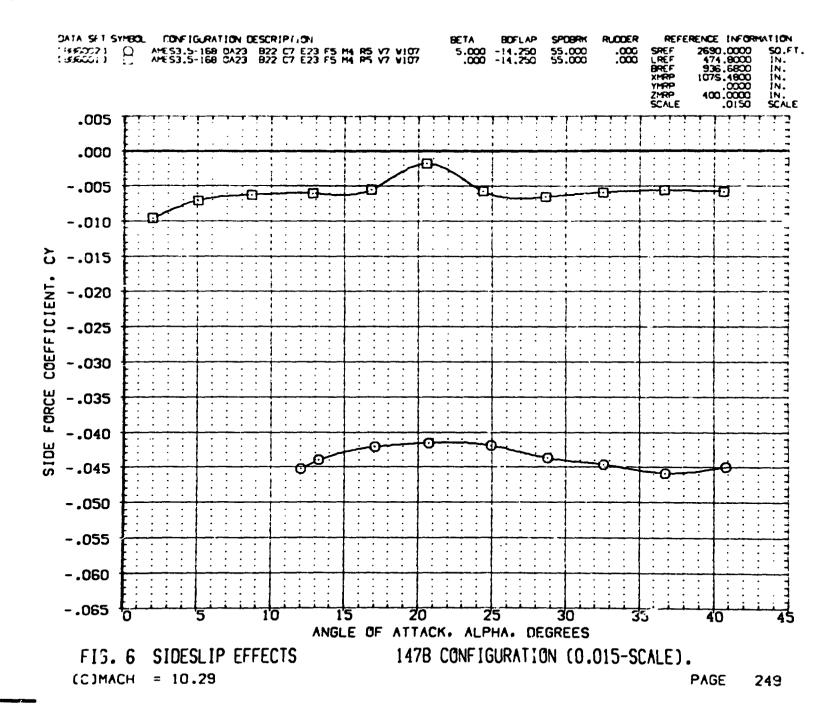


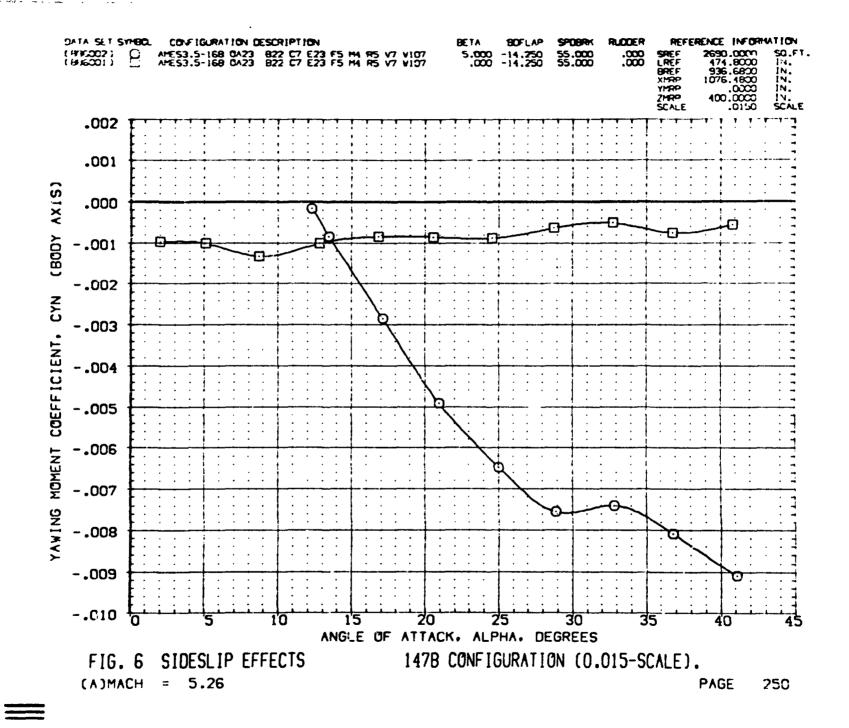
DATA SET SYMBOL CONFIGURATION DESCRIPTION SPOBRK RUCCER REFERENCE INFORMATION AMESS.5-168 0A23 B22 C7 E23 F5 M4 P5 V7 V107 AMESS.5-168 0A23 B22 C7 E23 F5 M4 P5 V7 V107 SQ.FT. 5.000 -14.230 .000 -14.250 SREF LREF BREF 55.000 55.000 .000 XMRP YMRP ZMRP SCALE IN. SCALE .005 .000 -.005 -.010 -.015 COEFFICIENT -.020 -.025 -.030 FORCE -.035 -.040 SIDE -.045 -.050 -.C55 -.050 -.065 ANGLE OF ATTACK, ALPHA, DEGREES 147B CONFIGURATION (0.015-SCALE). FIG. 6 SIDESLIP EFFECTS (A)MACH = 5.26PAGE

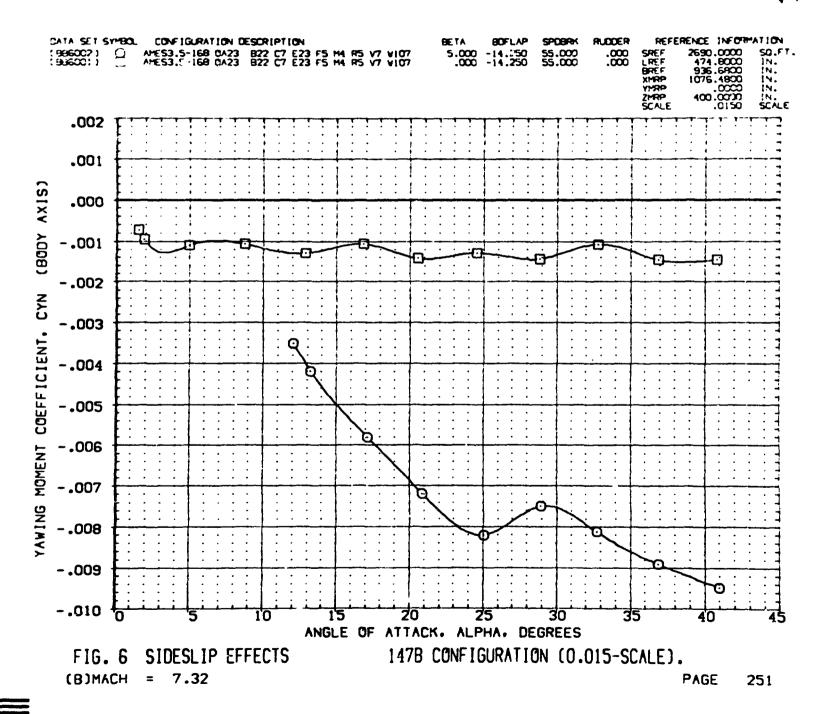
**;** ;

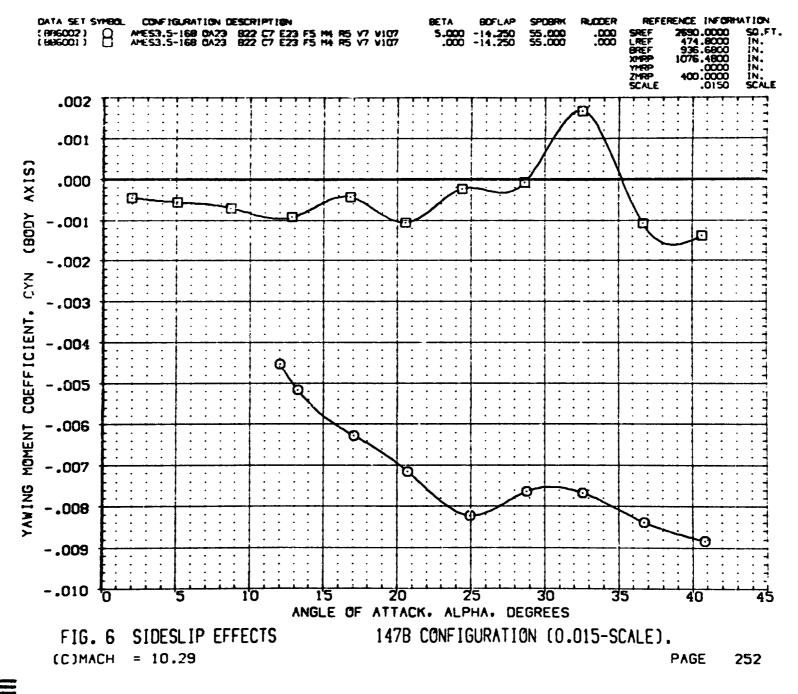
247

CONFIGURATION DESCRIPTION RLODER REFERENCE INFORMATION .000 IN. IN. IN. SCALE .005 .000 -.005 -.010 -.015 COEFFICIENT. -.020 -.025 -.030 SIDE FORCE -.035 -.040 -.045 -.050 -.055 -.060 -.065 ANGLE OF ATTACK. ALPHA, DEGREES 147B CONFIGURATION (0.015-SCALE). SIDESLIP EFFECTS (B)MACH = 7.32PAGE 248

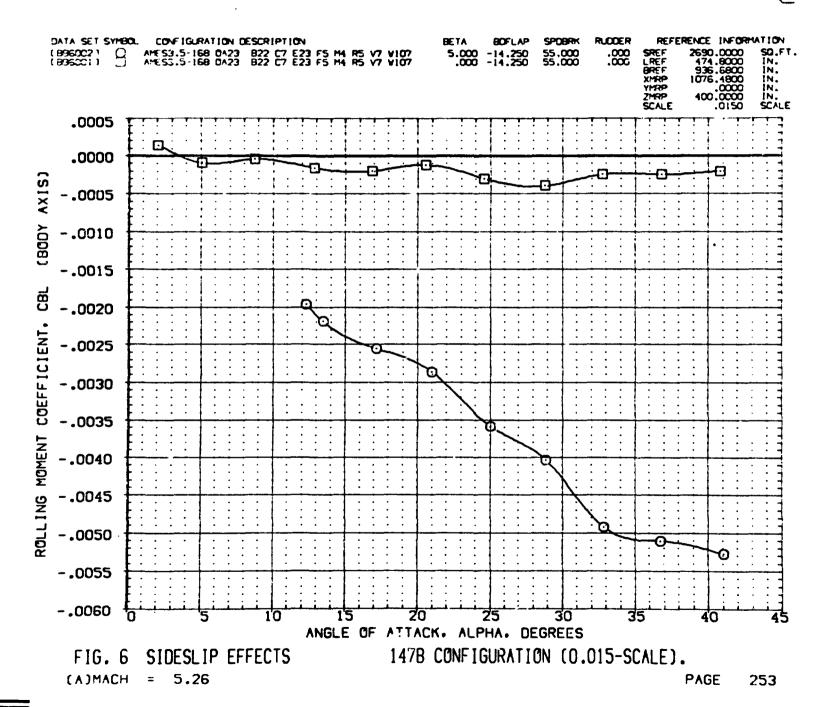


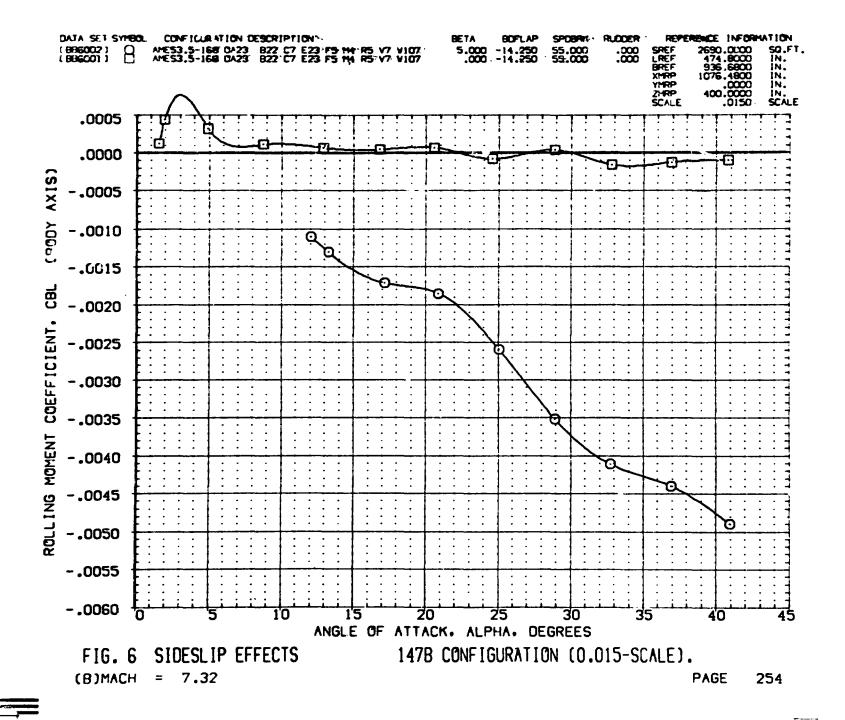






**-**

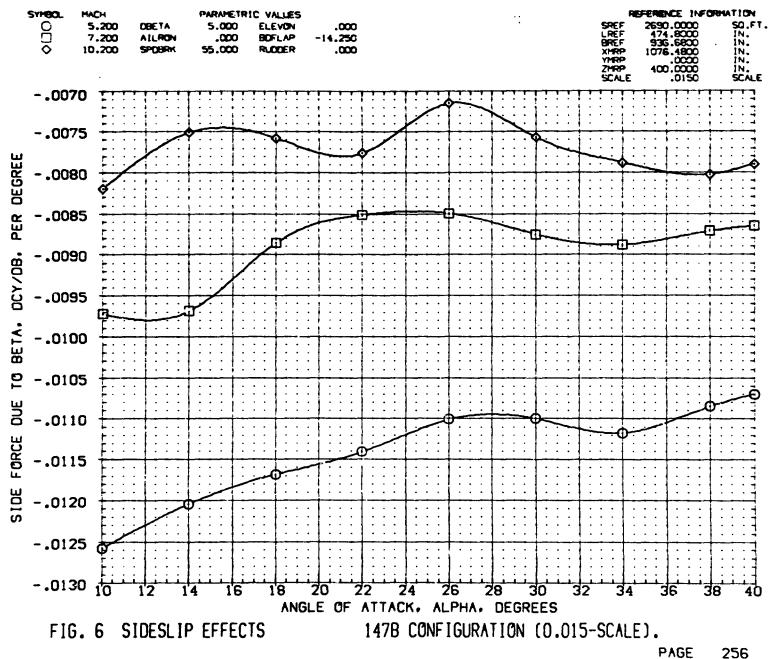




255

DATA SET SYMBOL CONFIGURATION DESCRIPTION RUCCER AMES3.5-168 0A23 822 C7 E23 F5 M4 R5 V7 V107 AMES3.5-168 0A23 822 C7 E23 F5 M4 R5 V7 V107 55.000 .000 IN. IN. IN. SCALE XMPP YMRP ZMRP SCALE .0005 .0000 -.0005 (BODY -.0010 -.0015 -.0020 COEFFICIENT. -.0025 -.0030 -.0035 ROLLING MOMENT -.0040 -.0045 -.0050 -.0055 -.0060 ANGLE OF ATTACK. ALPHA. DEGREES FIG. 6 SIDESLIP EFFECTS 147B CONFIGURATION (0.015-SCALE). (C)MACH = 10.29PAGE

AMES3.5-168 0A23 B22 C7 E23 F5 M4 R5 V7 W107 (186002)



AMES3.5-168 0A23 B22 C7 E23 F5 M4 R5 V7 W107 (TB6002)

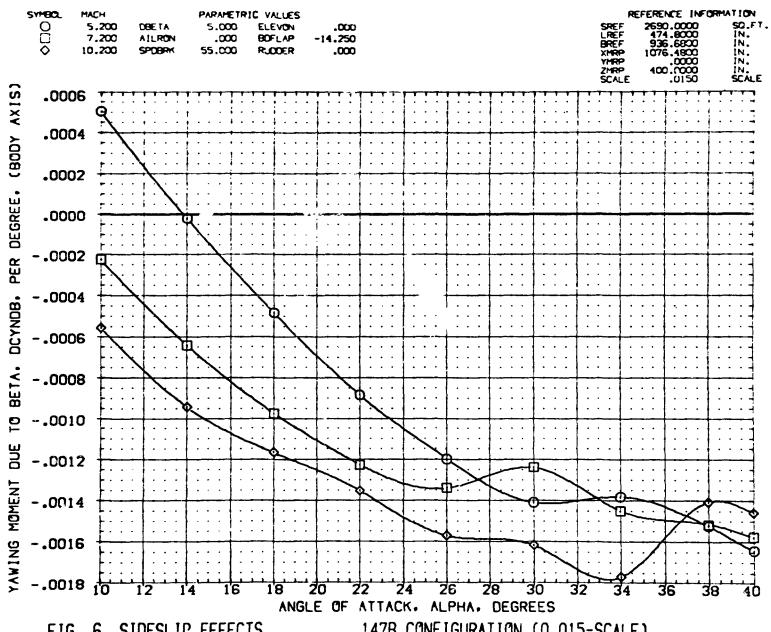
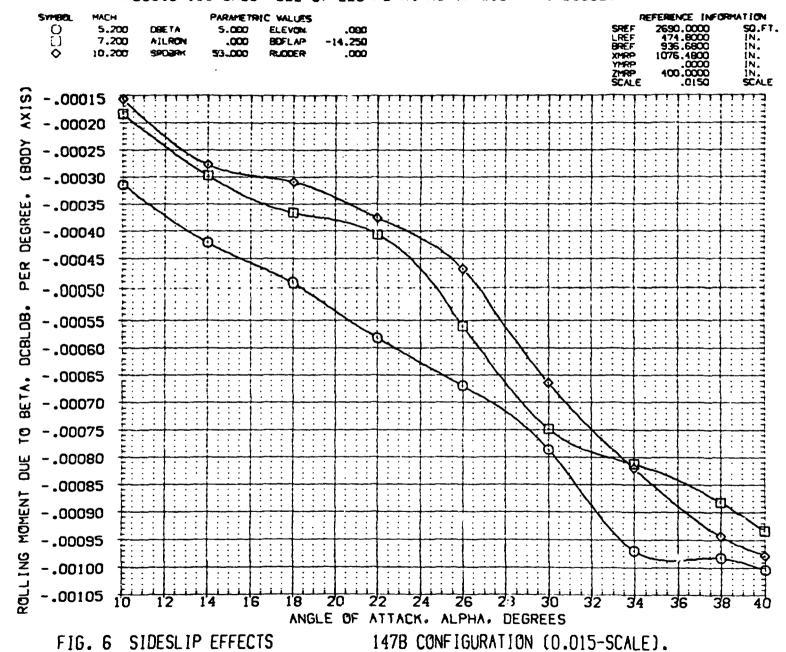


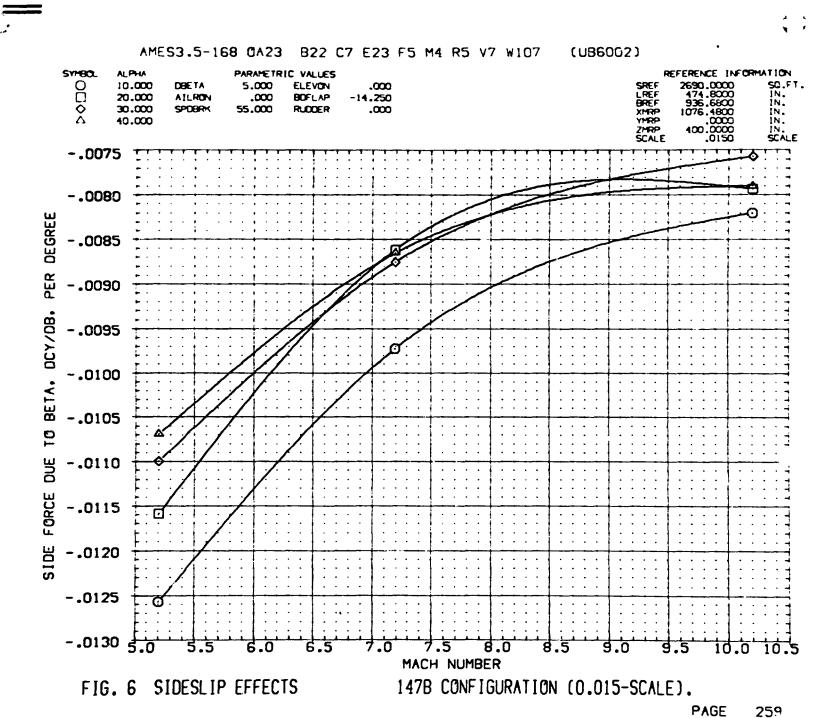
FIG. 6 SIDESLIP EFFECTS

147B CONFIGURATION (0.015-SCALE).

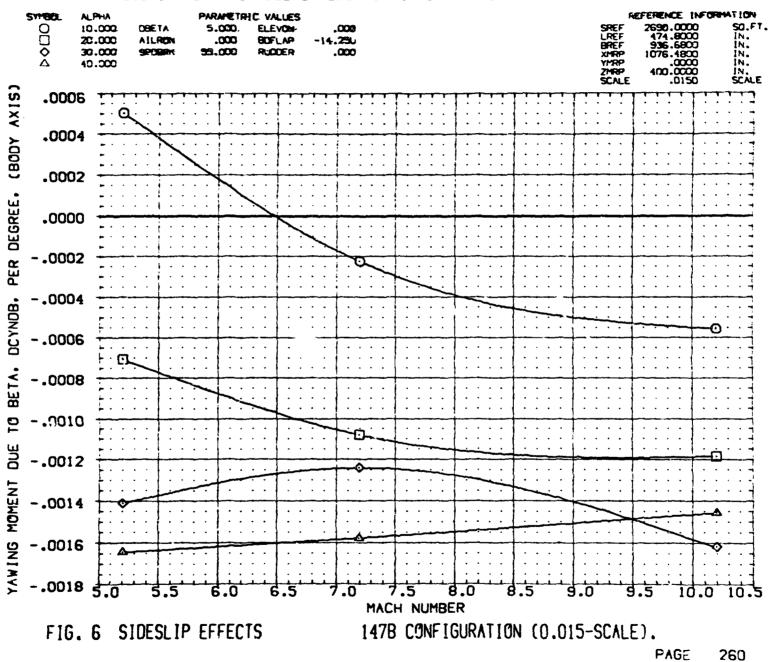


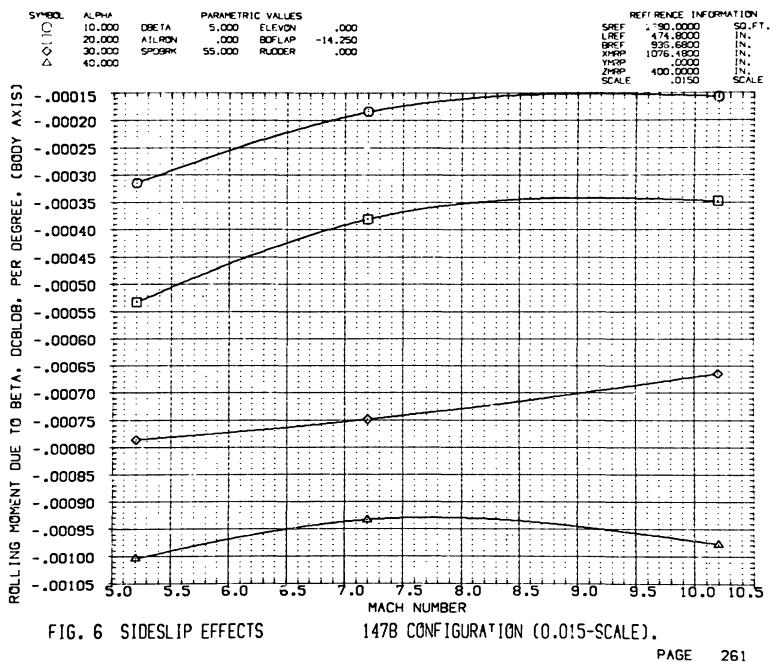
PAGE

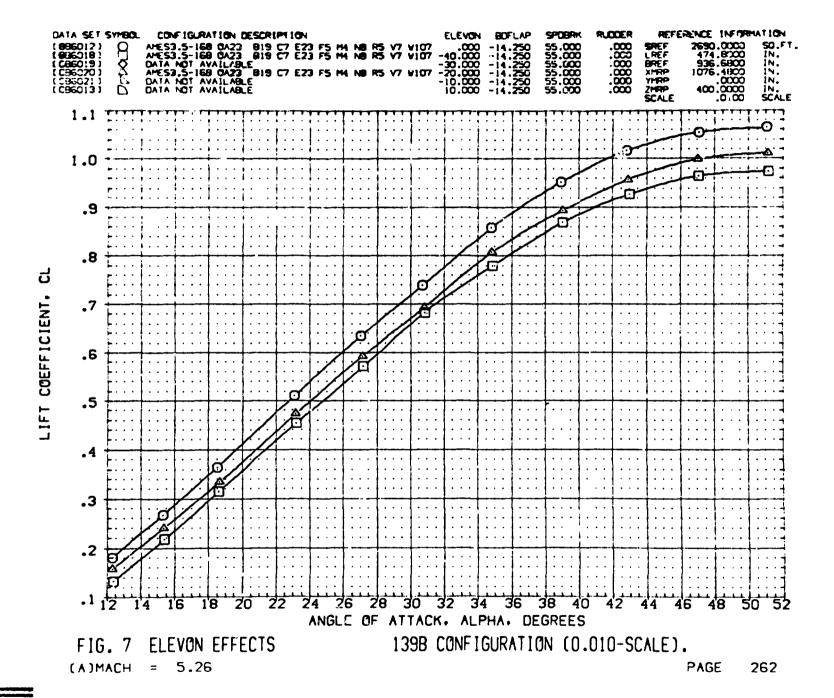
258

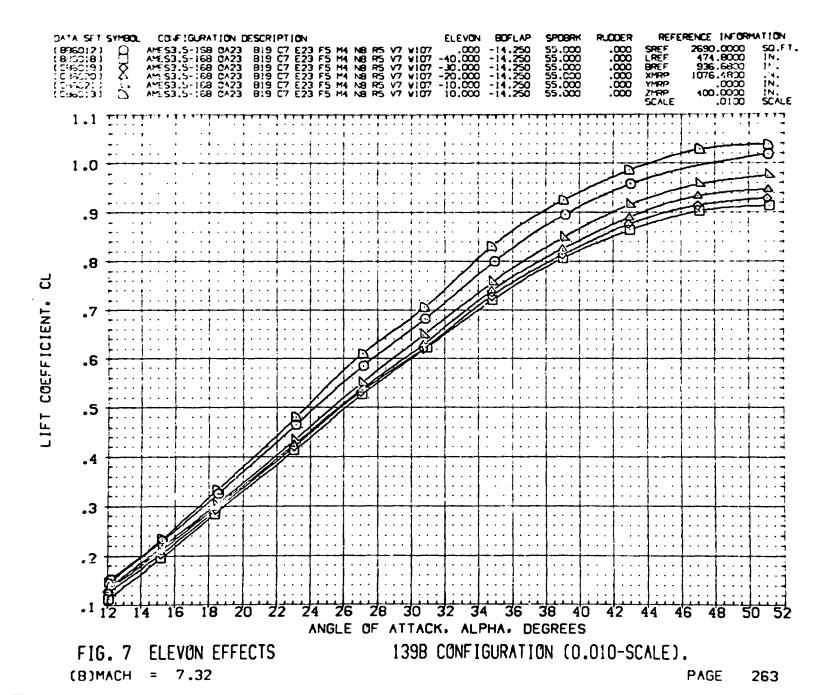


## NMES3.5-168 @A23 B22 C7 E23 F5 M4 R5 V7 W107 (UB6002)

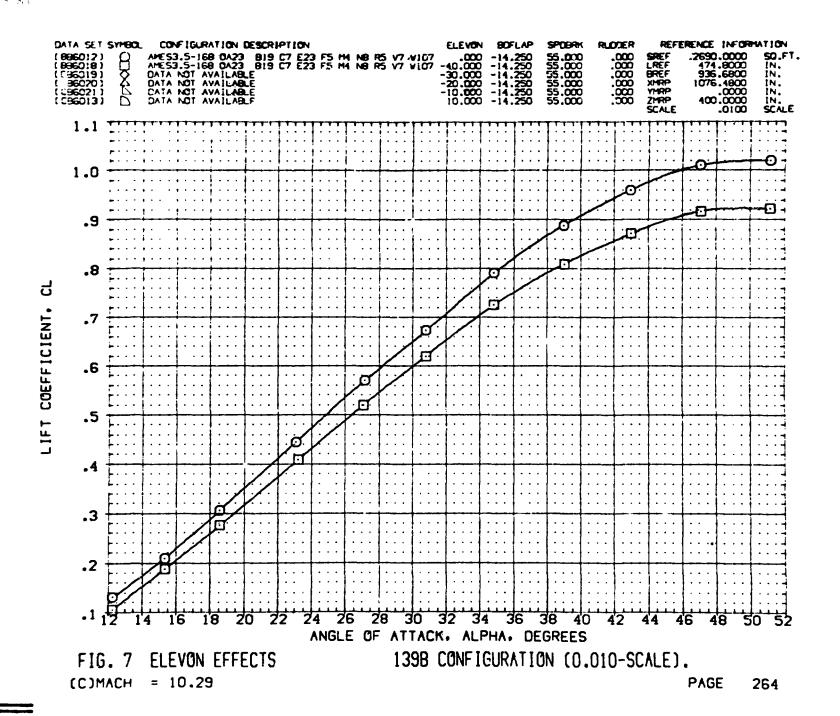






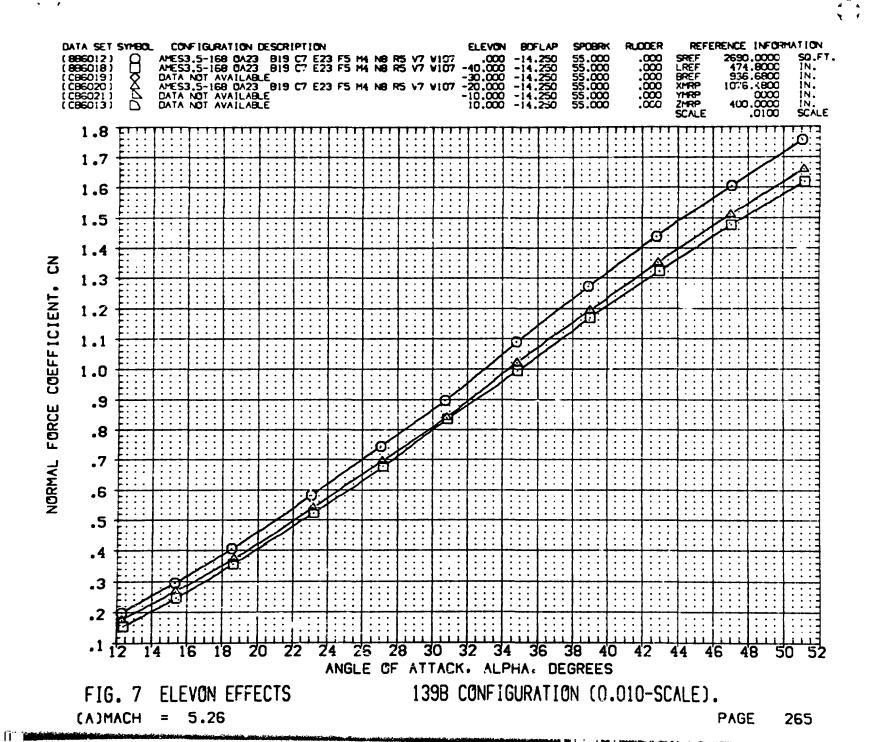


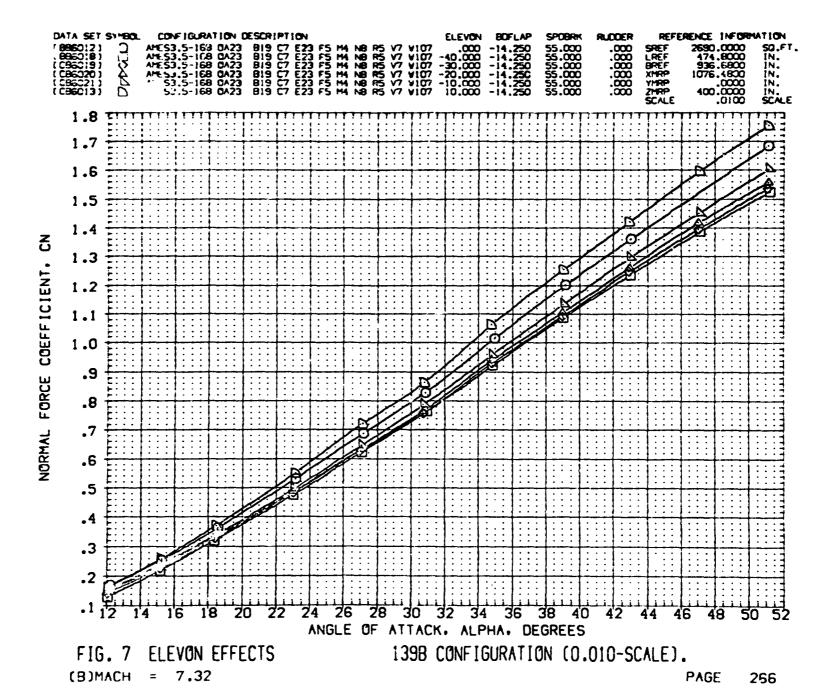
the training of the specific that the state of



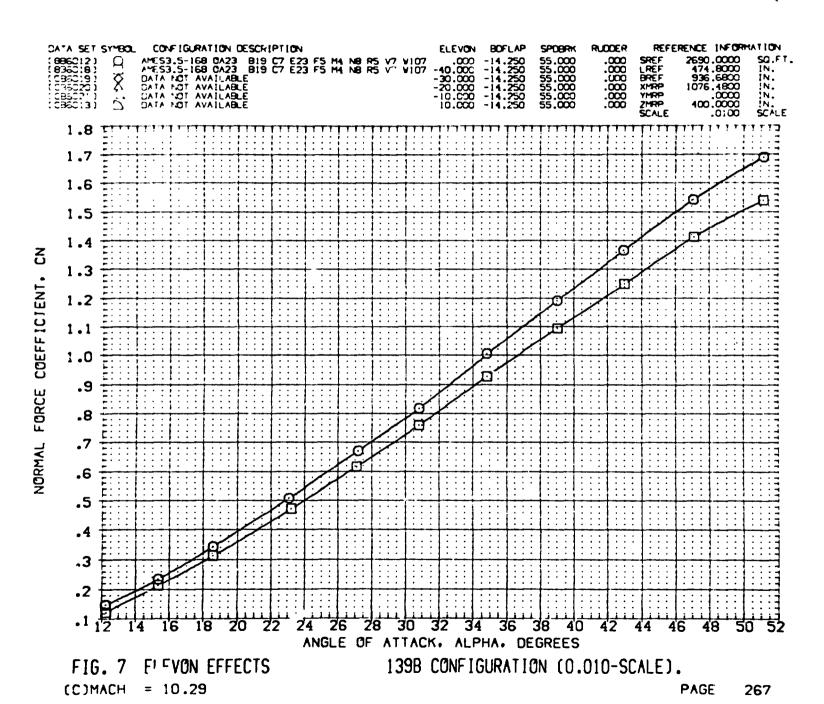
44

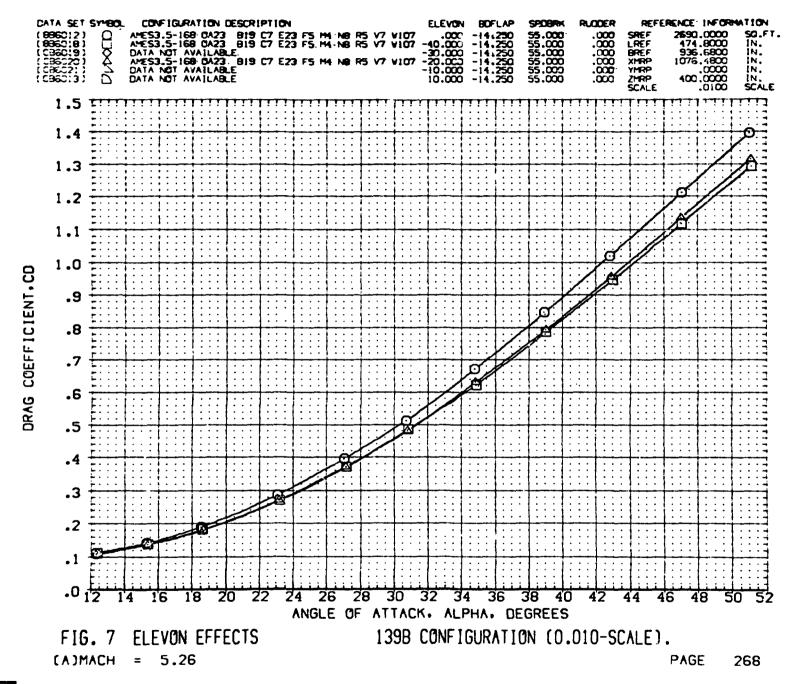
₹ne w











A control of the cont

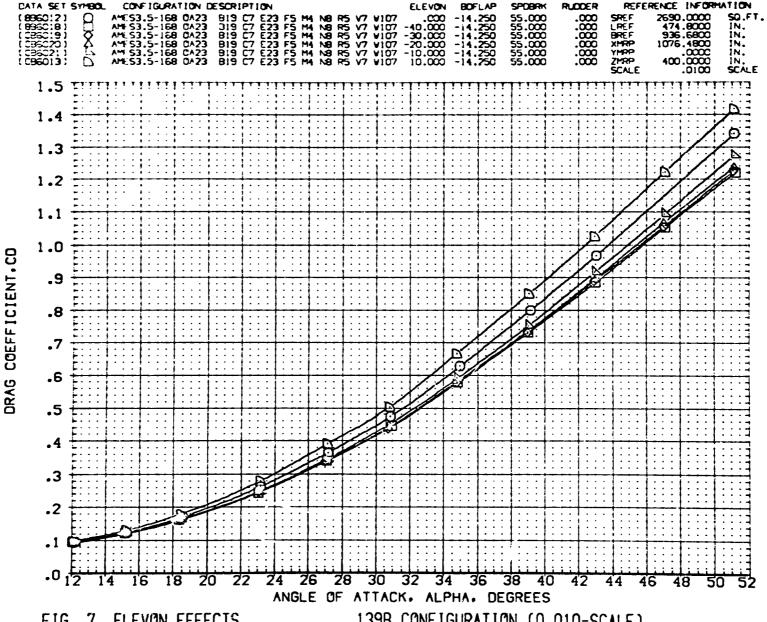


FIG. 7 ELEVON EFFECTS (B)MACH = 7.32

139B CONFIGURATION (0.010-SCALE).

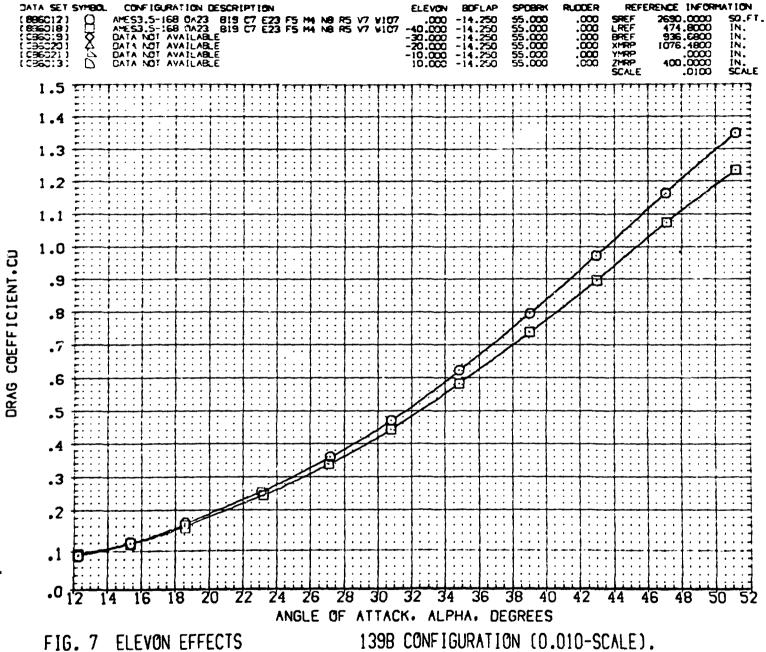
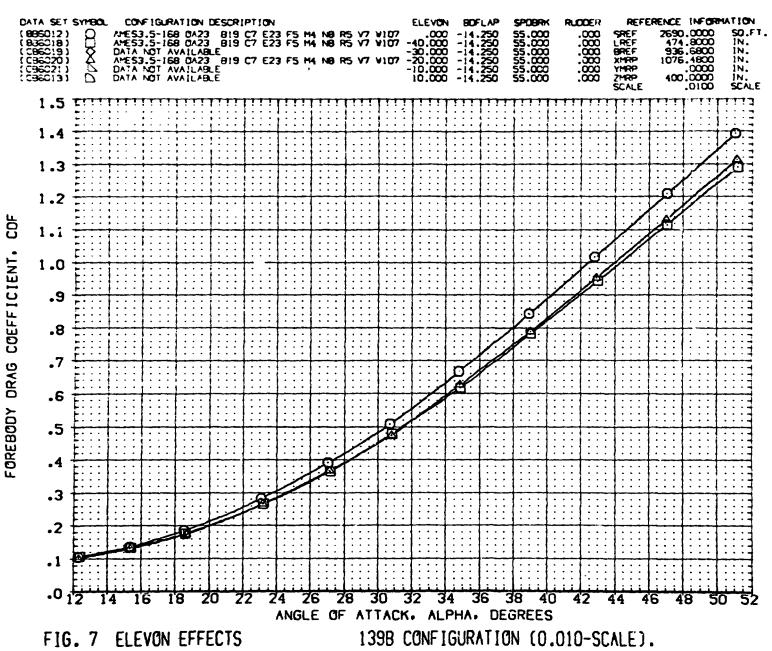


FIG. 7 ELEVON EFFECTS

(C)MACH = 10.29

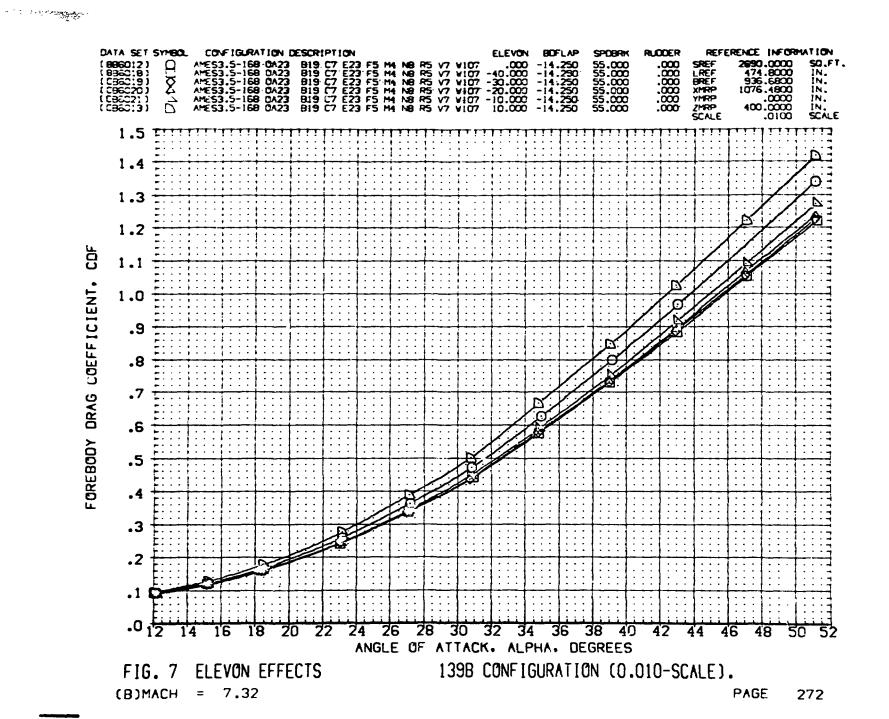
PAGE 270

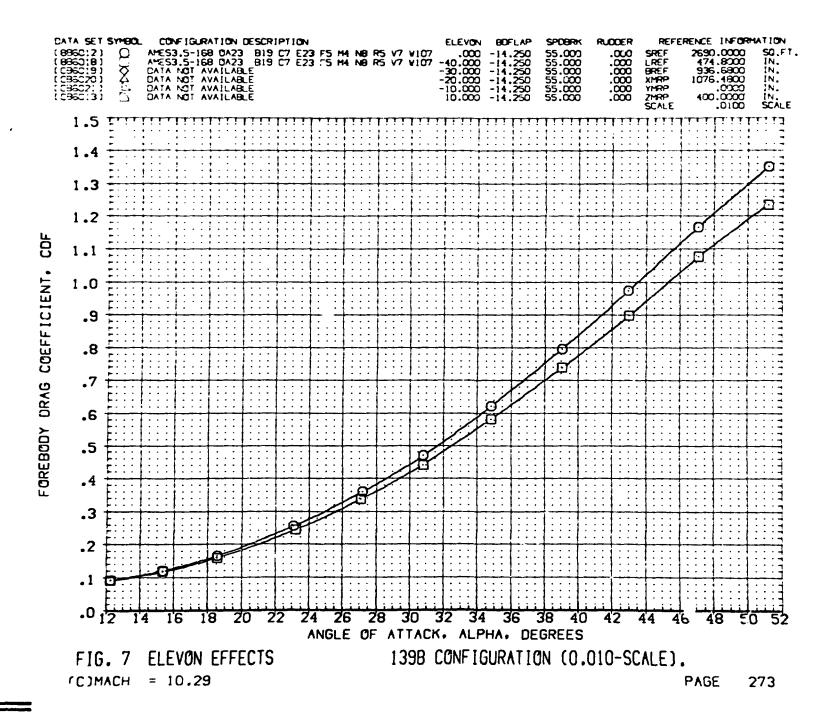
approximate the second

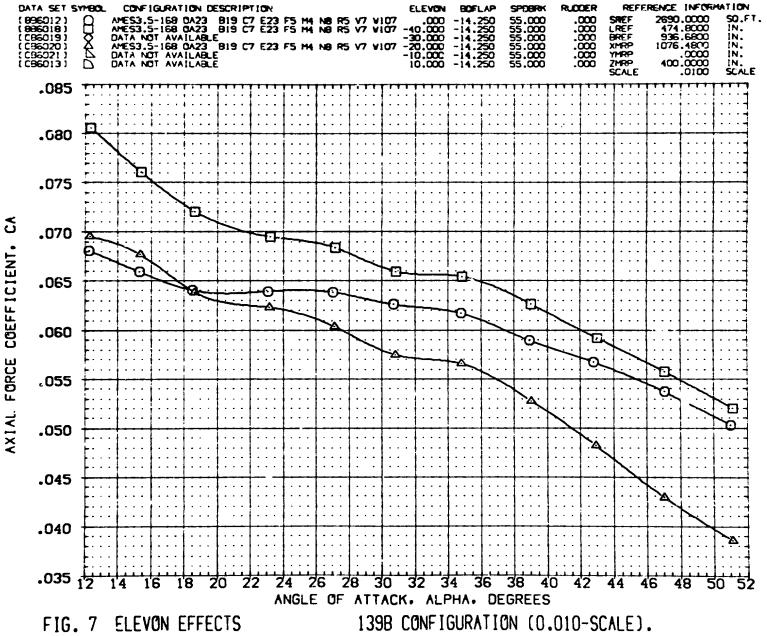


(A)MACH = 5.26

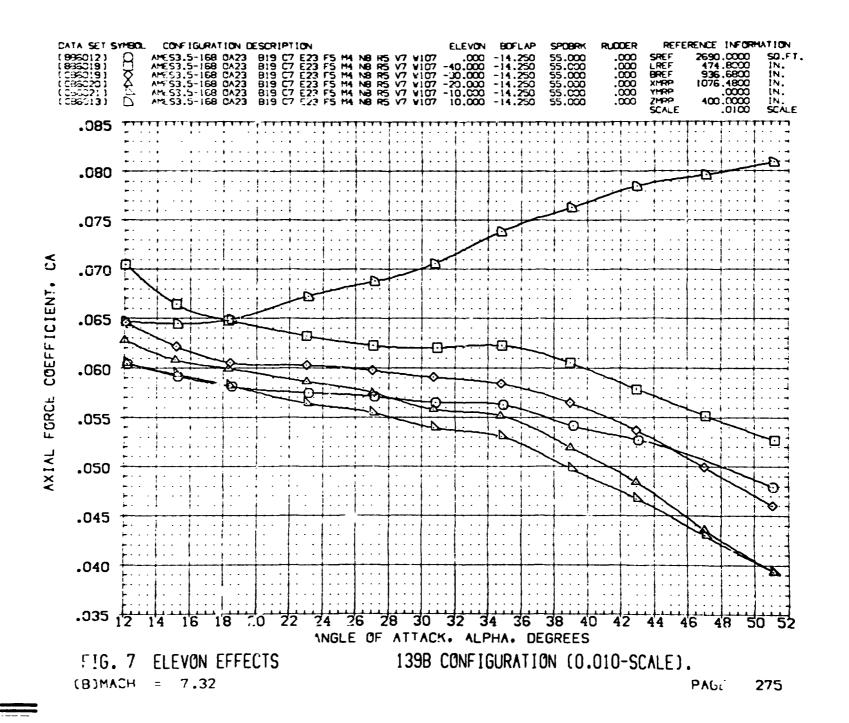
271

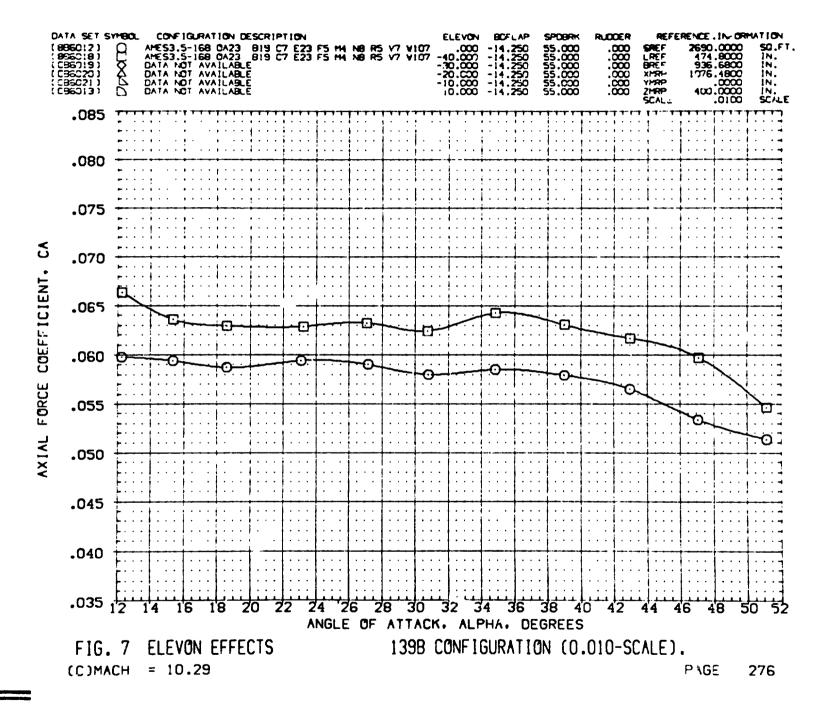


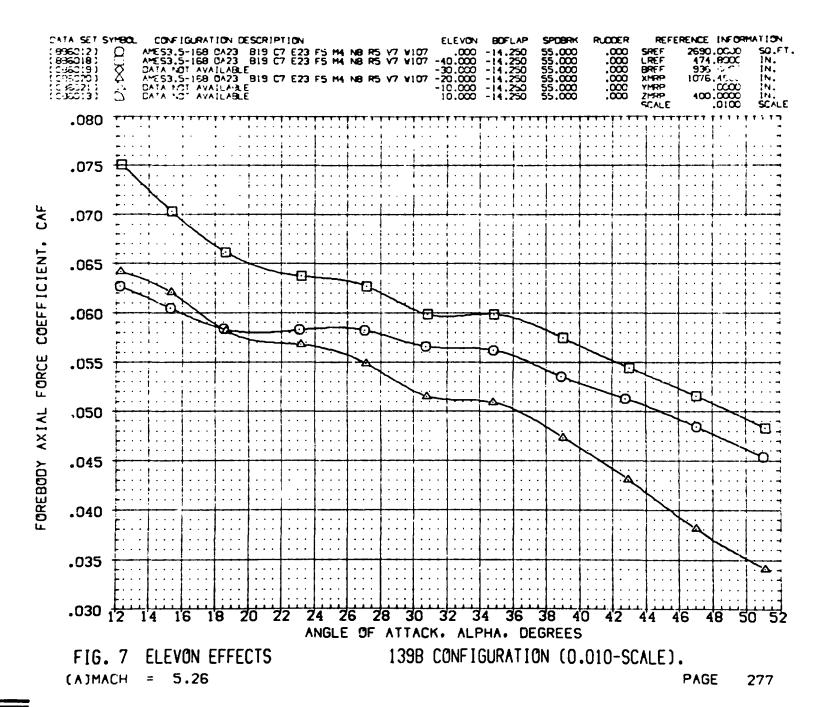




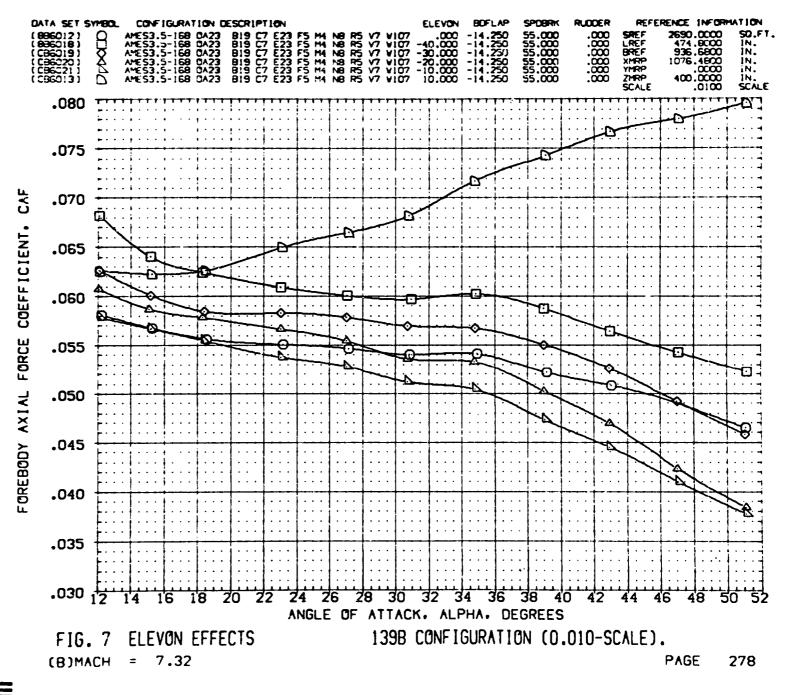
(A)MACH = 5.26

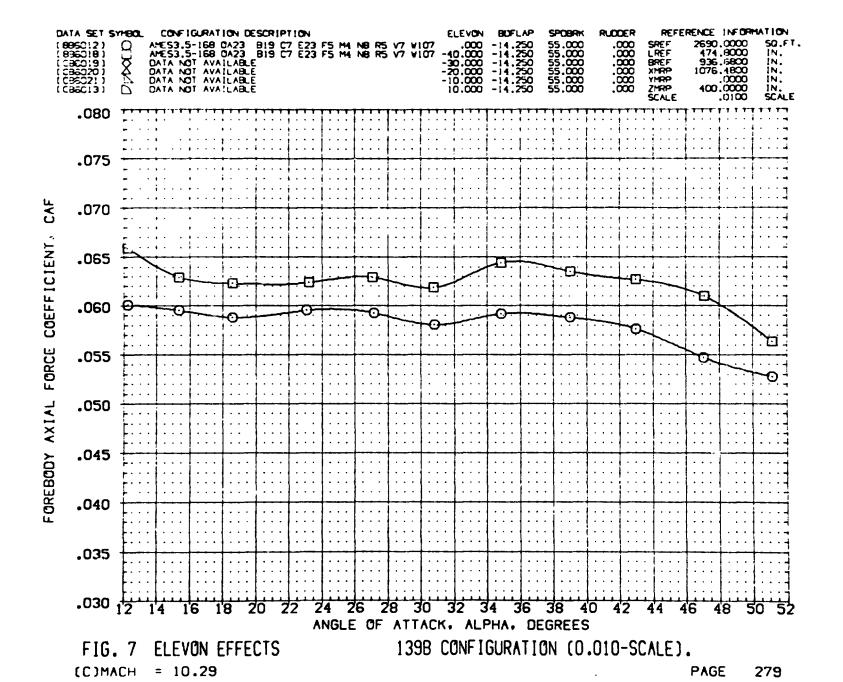


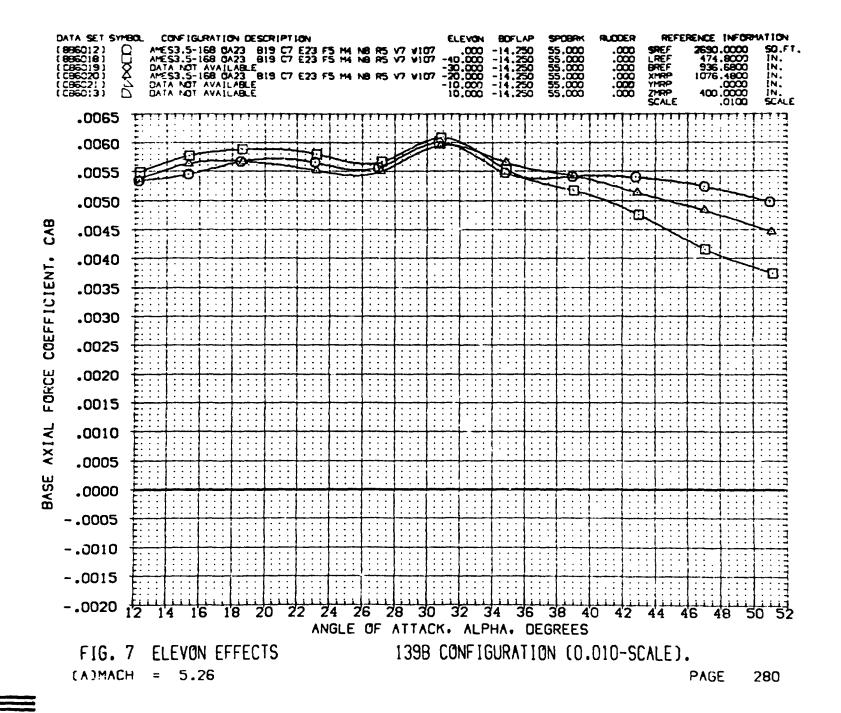


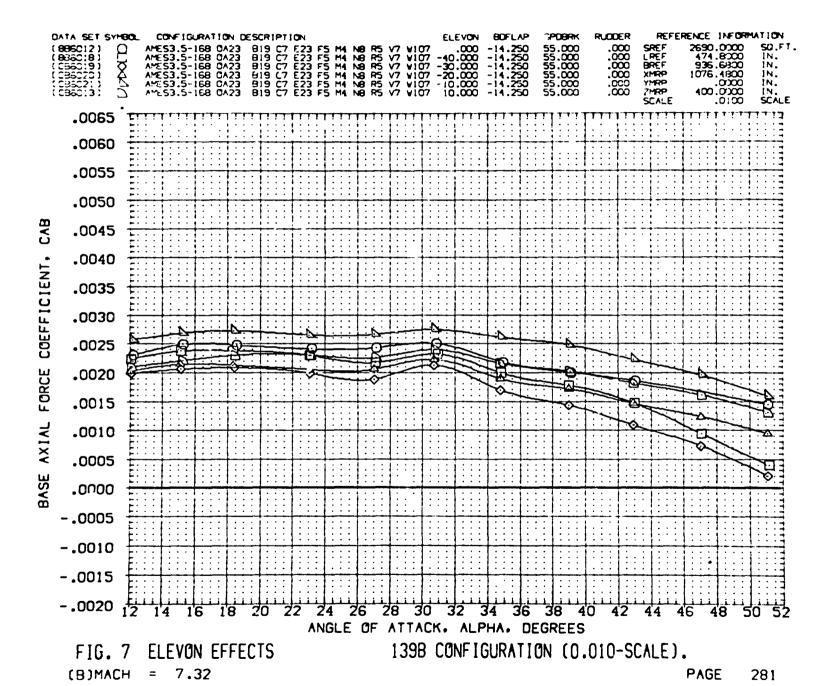


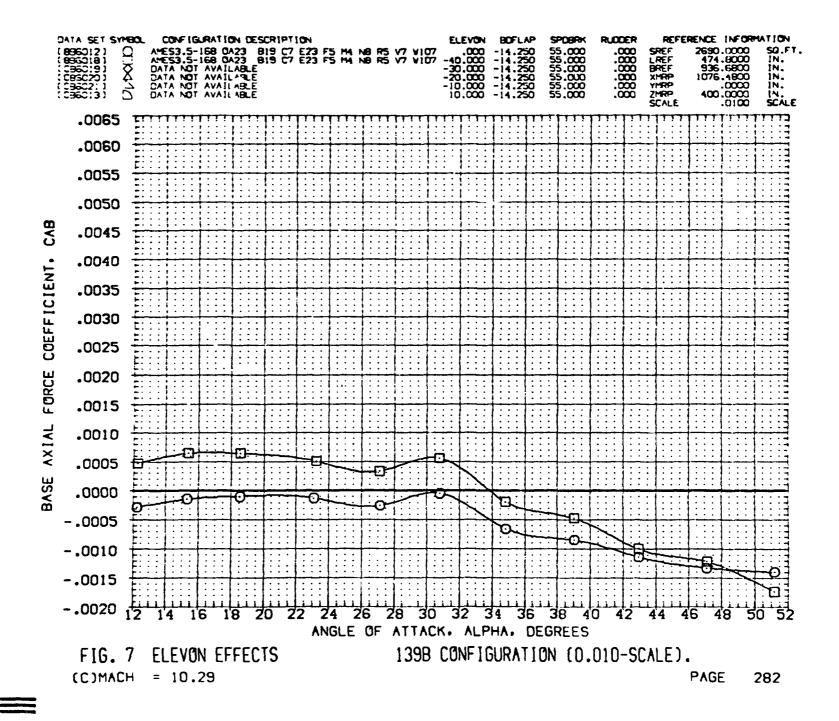
\* 1

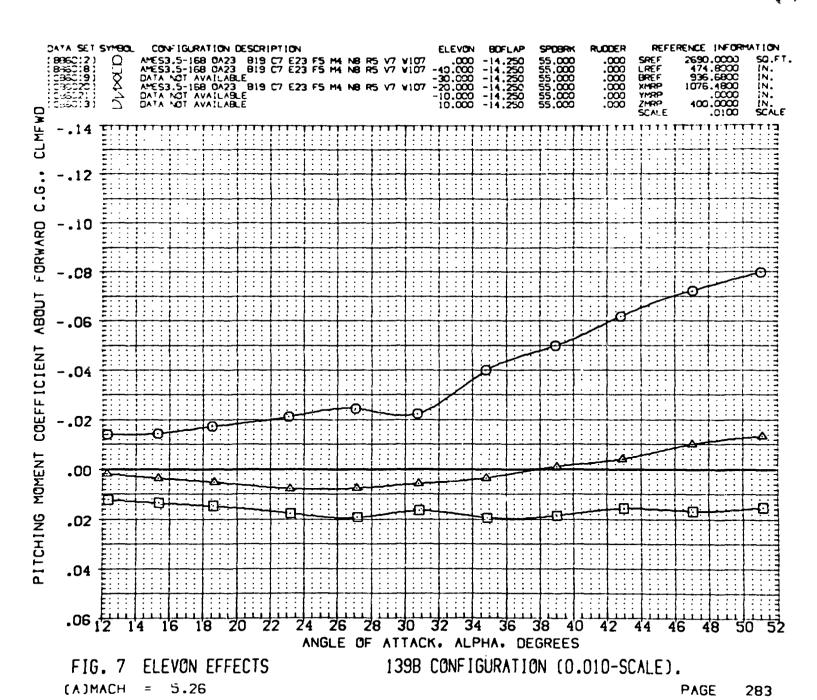


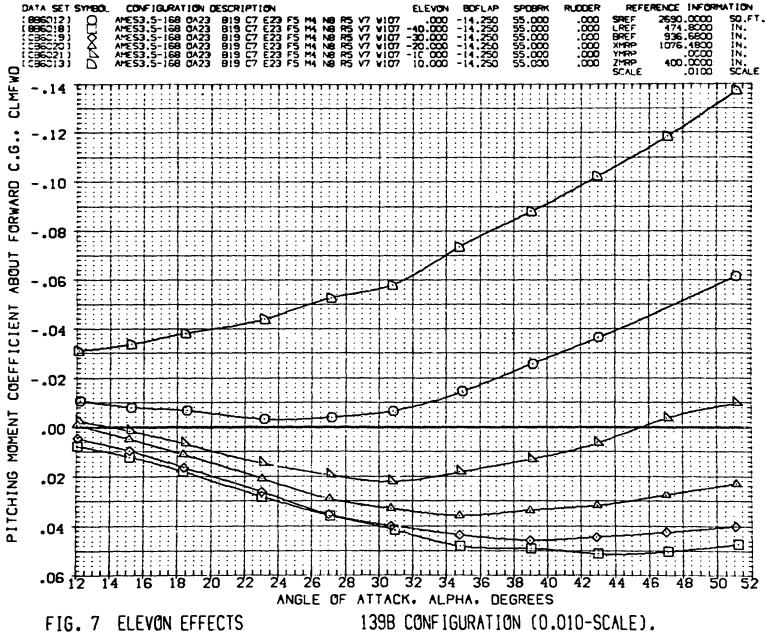






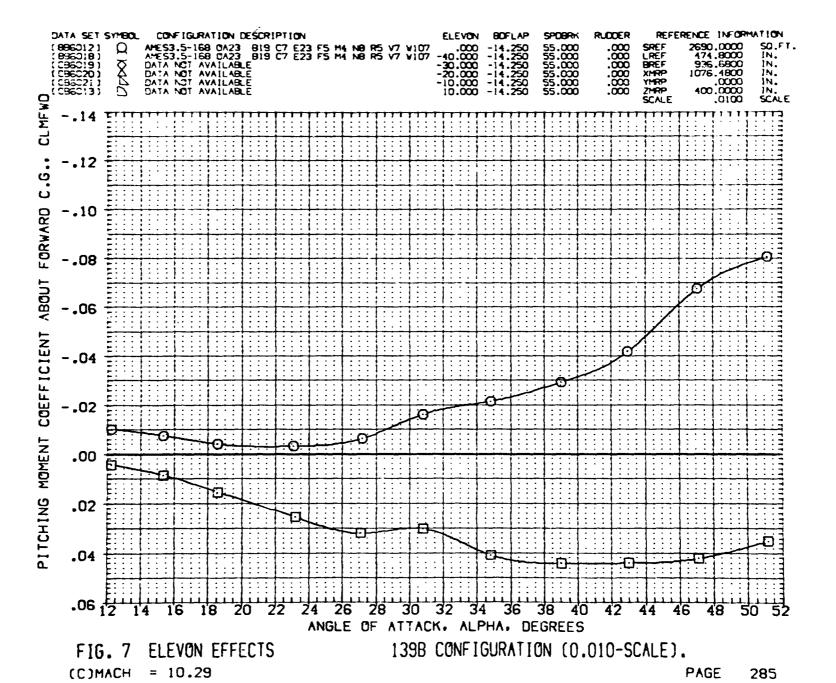


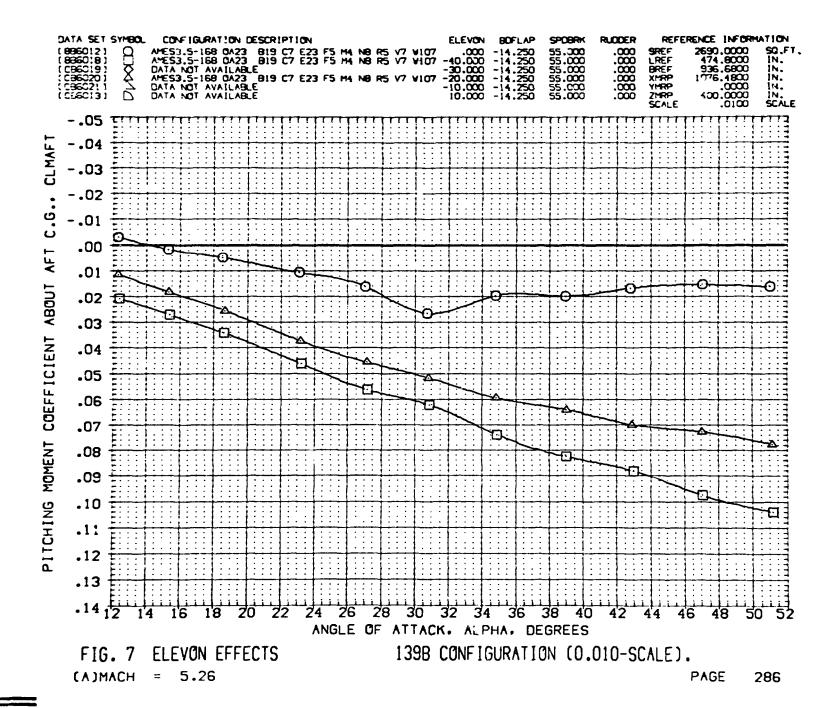


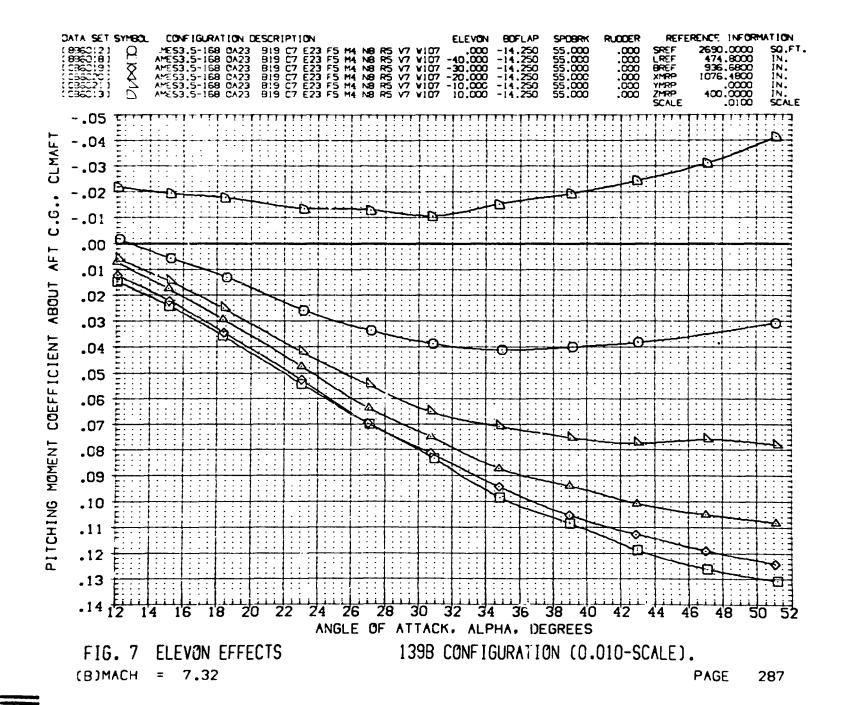


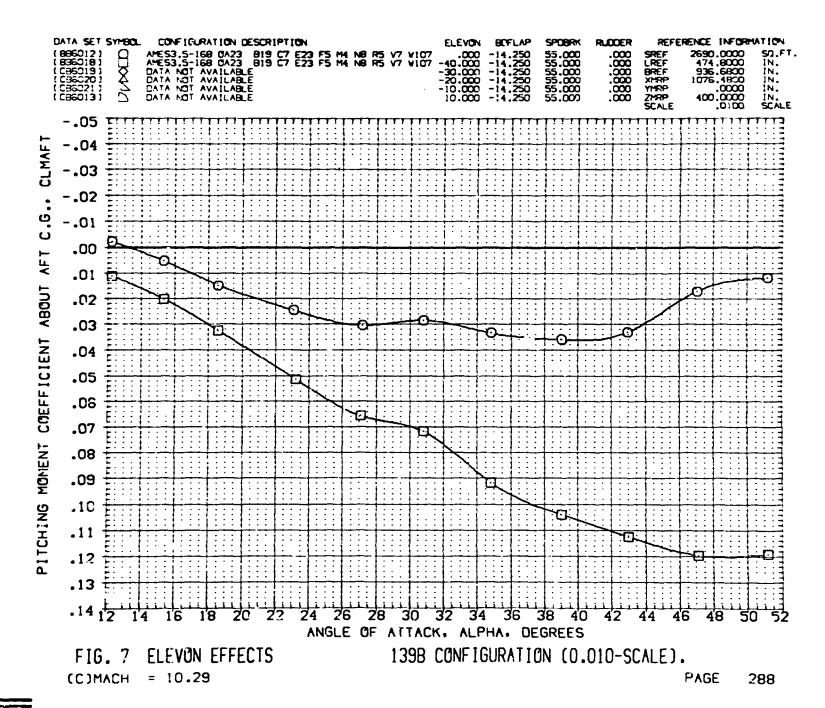
(B)MACH = 7.32

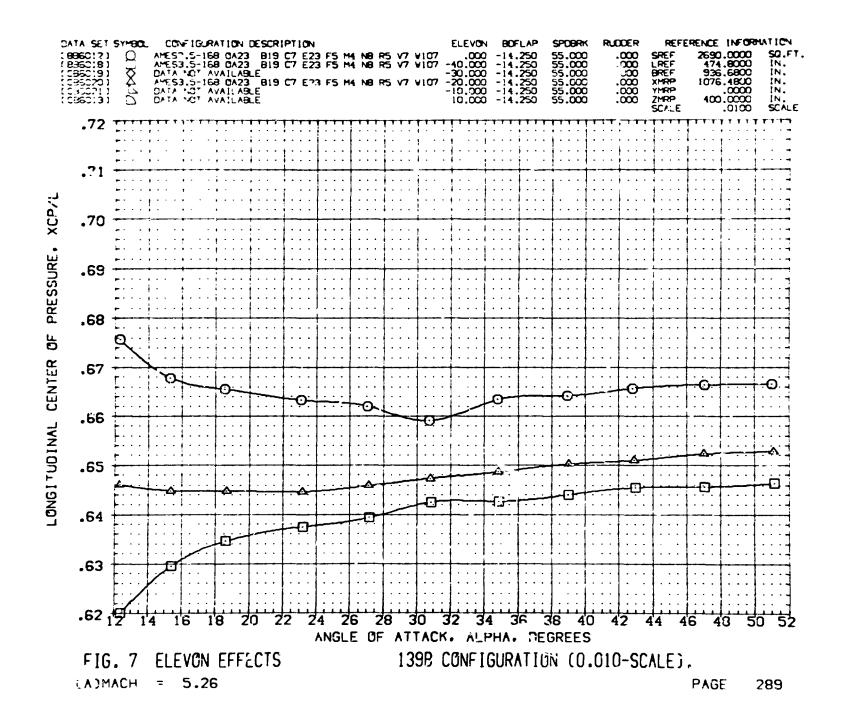
これの大変なない かんしゅうしょうしょう かんしょく

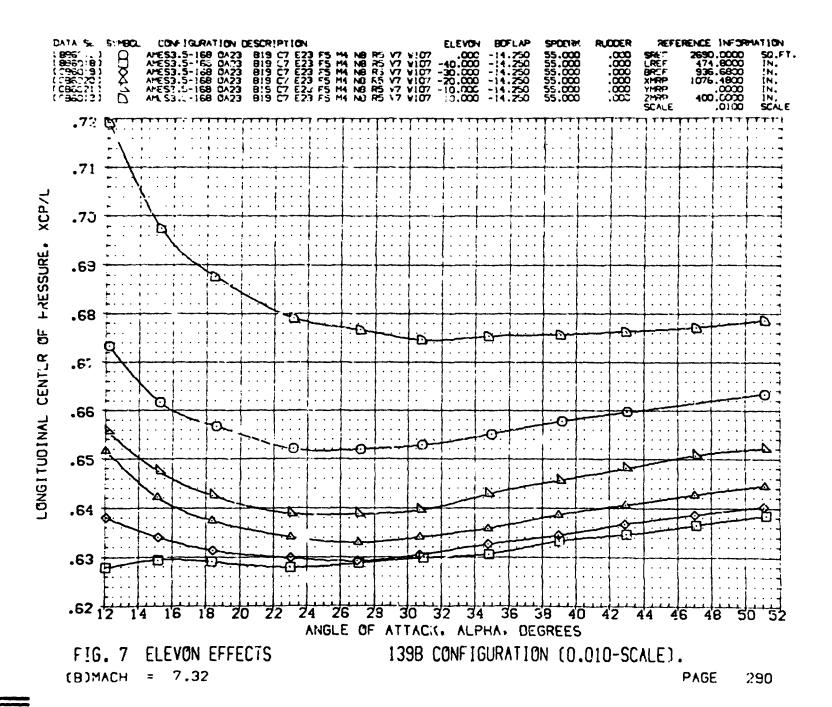




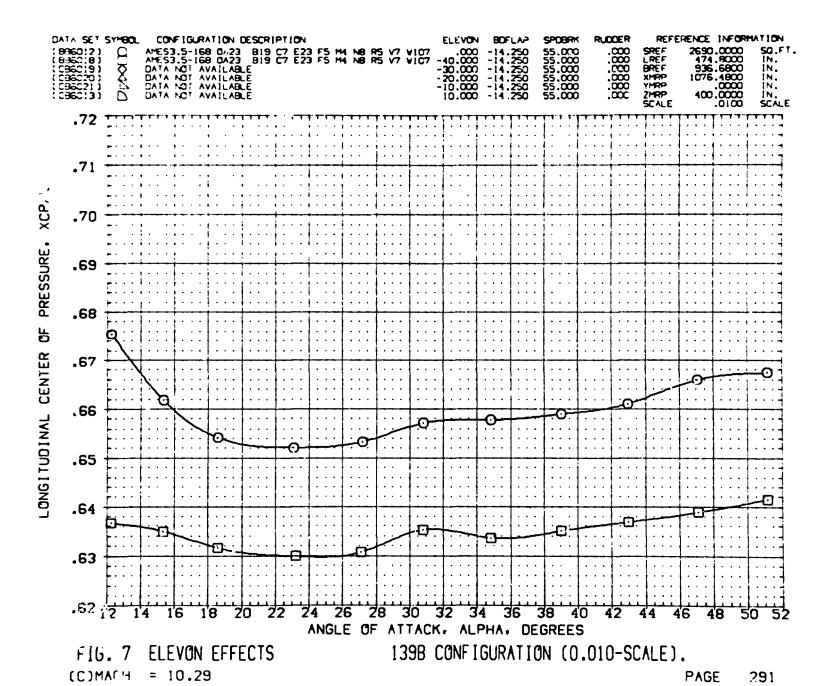






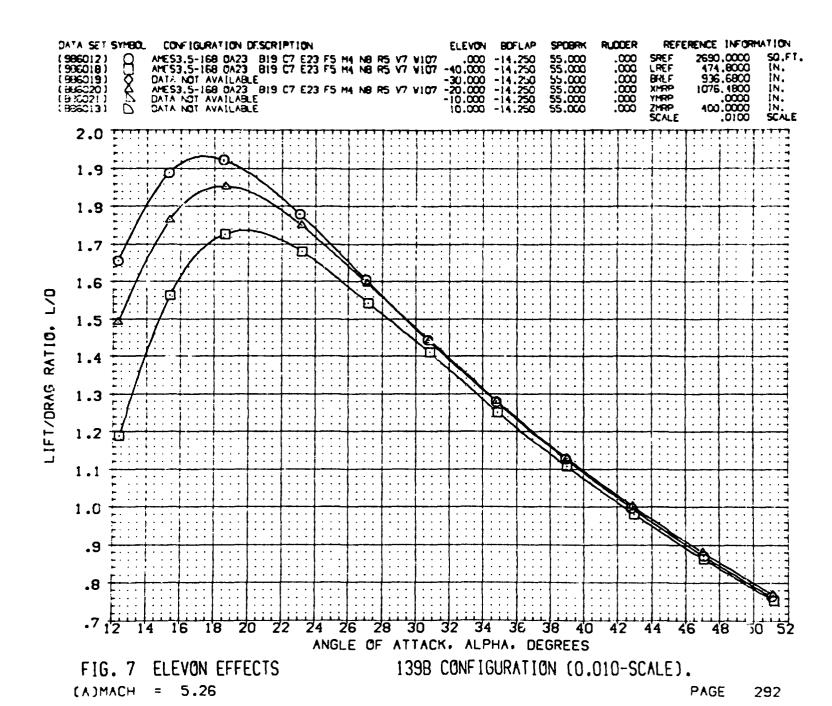


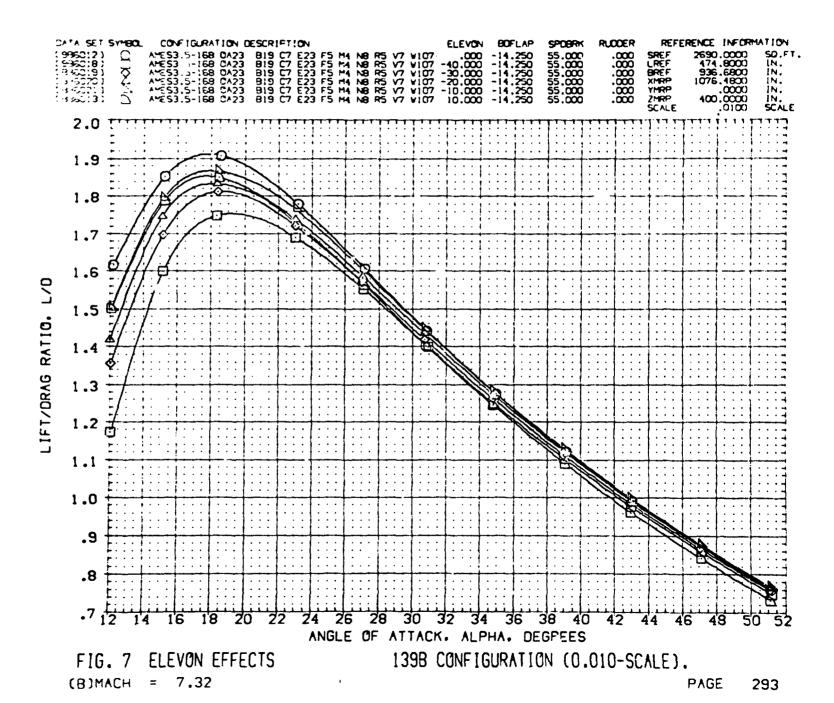
<del>---</del>



South South Shirt Continues Inches the con-

\*





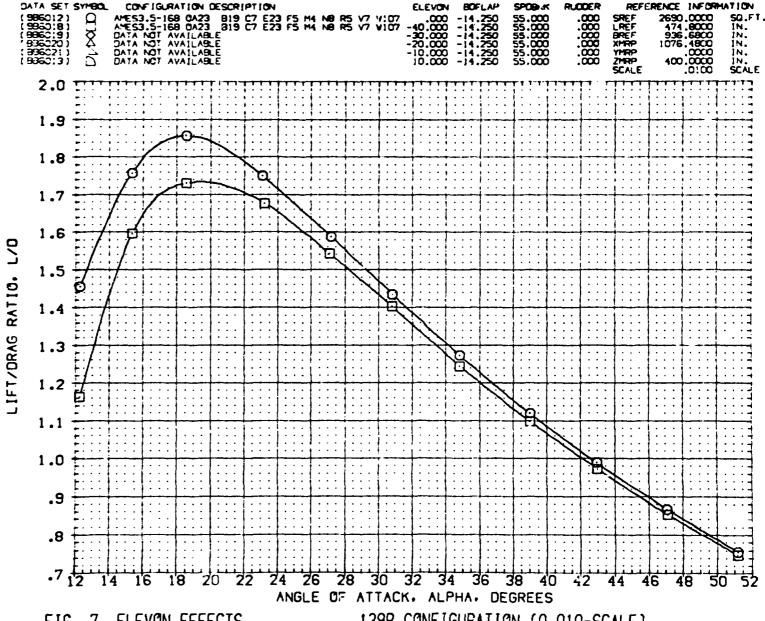


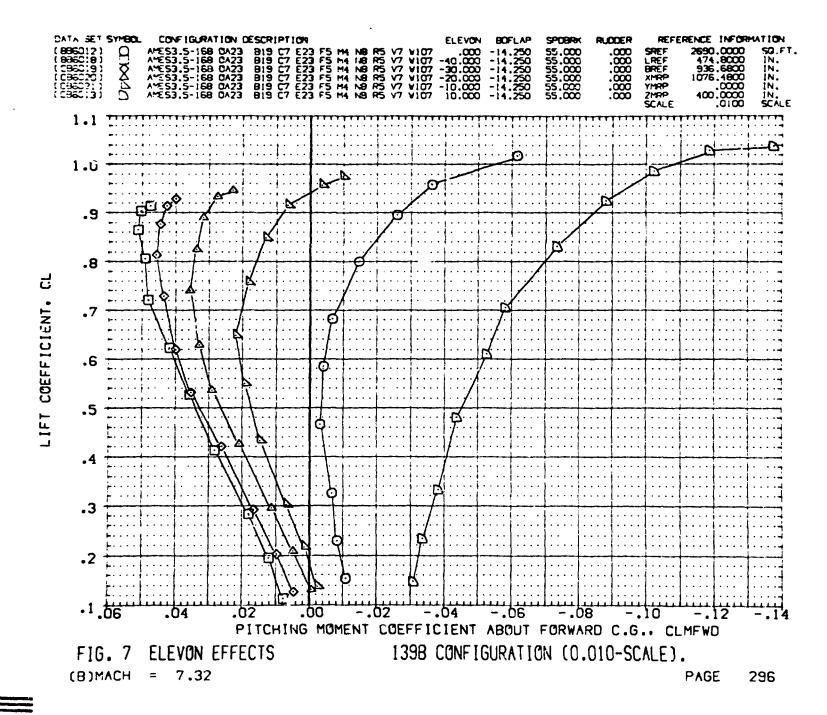
FIG. 7 ELEVON EFFECTS (C)MACH = 10.29

139B CONFIGURATION (0.010-SCALE).

PAGE . 295

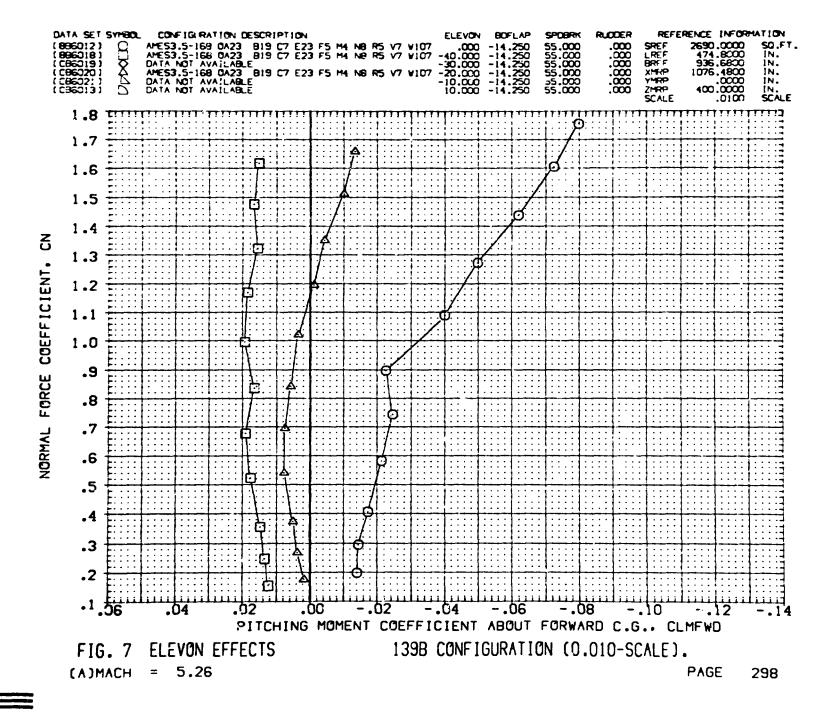
1

(A)MACH = 5.26

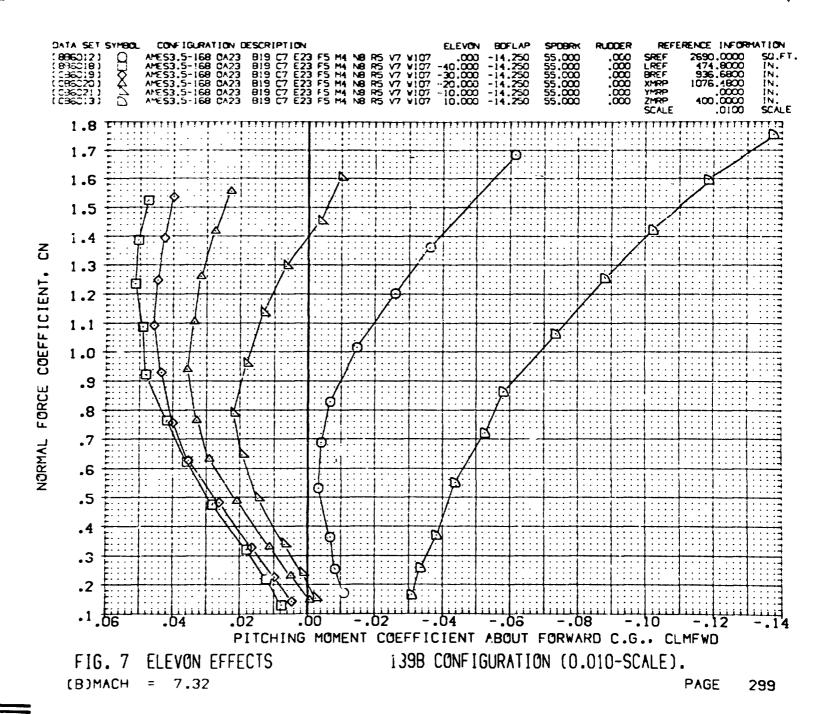


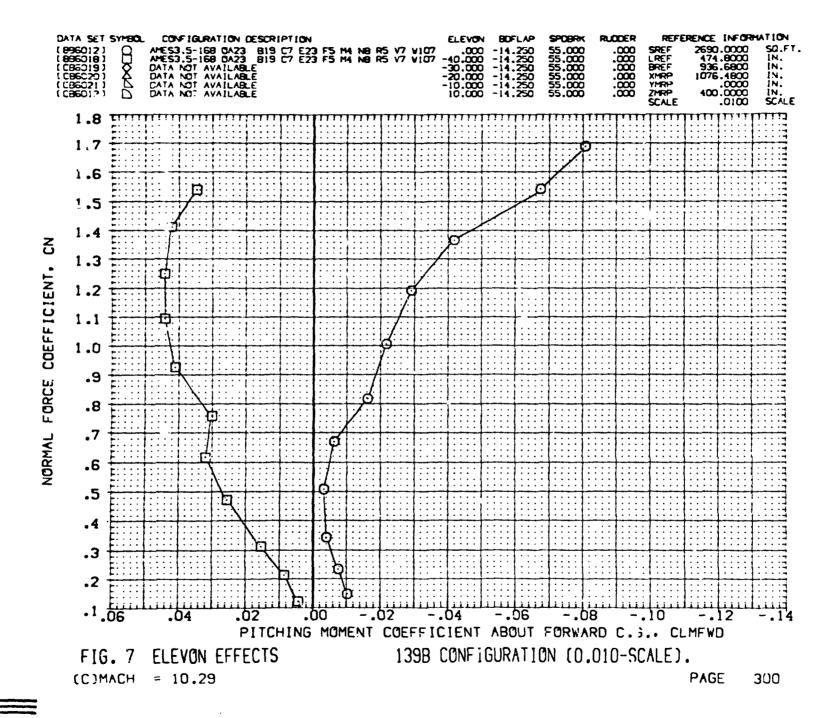
REFERENCE INFORMATION CONFIGURATION DESCRIPTION SP08RK SREF LREF BREF XMRP YMRP ZMRP ZMRP SCALE 2690.0000 474.8000 936.6800 1076.4800 AMES3.5-168 CA23 B19 C7 E23 F5 M4 N8 R5 V7 V107 AMES3.5-168 CA23 B19 C7 E23 F5 M4 N8 R5 V7 V107 DATA NOT AVAILABLE 55.000 55.000 55.000 55.000 55.000 -14.250 -14.250 -14.250 -14.250 -14.250 -14.250 (6.30.8) (0.30.9) (0.30.20) (0.30.21) (0.450.3) -40.000 -30.000 -20.000 -0.000 1.0 LIFT CCEFFICIENT. PITCHING MOMENT COEFFICIENT ABOUT FORWARD C.G.. CLMFWD 139B CONFIGURATION (0.010-SCALE). FIG. 7 ELEVON EFFECTS (C)MACH = 10.29PAGE

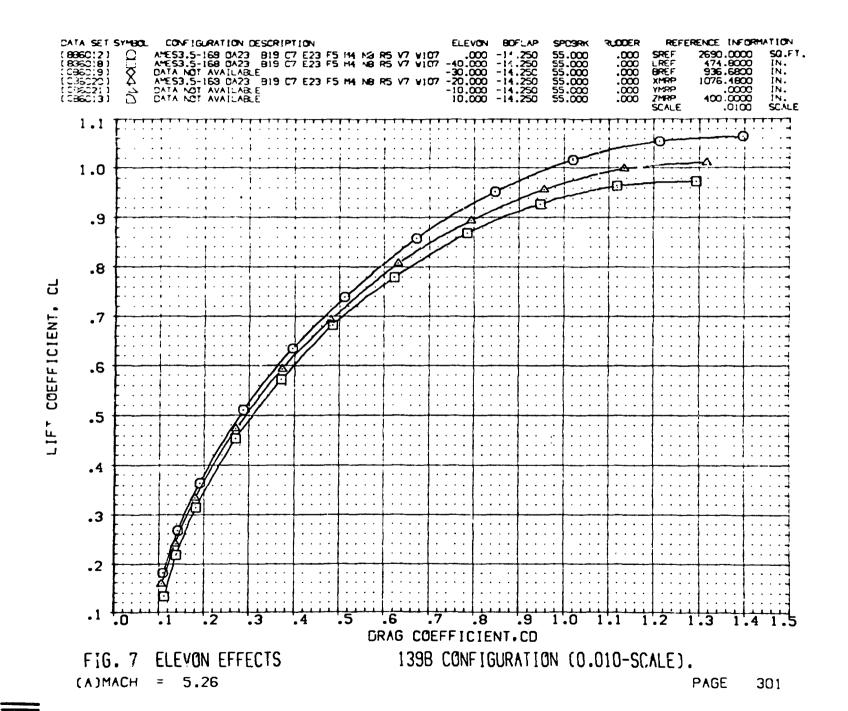
297

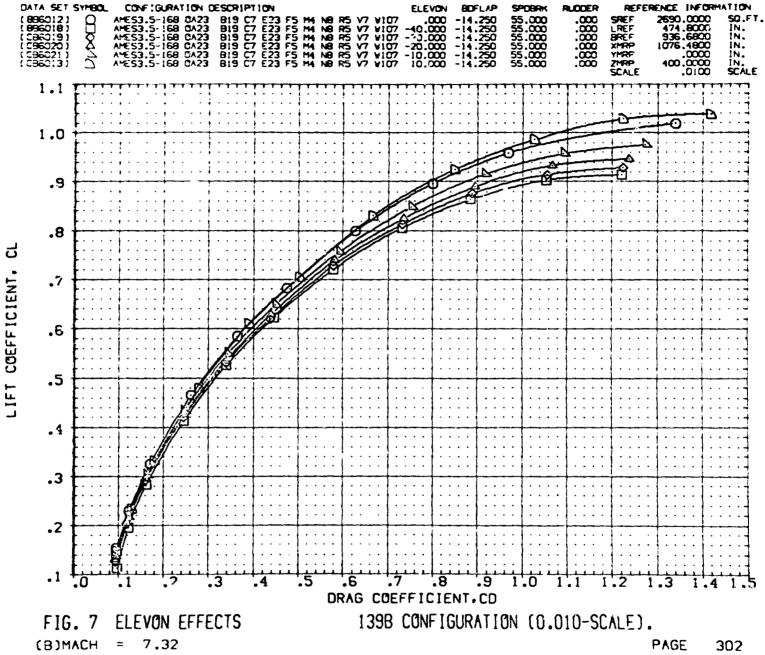


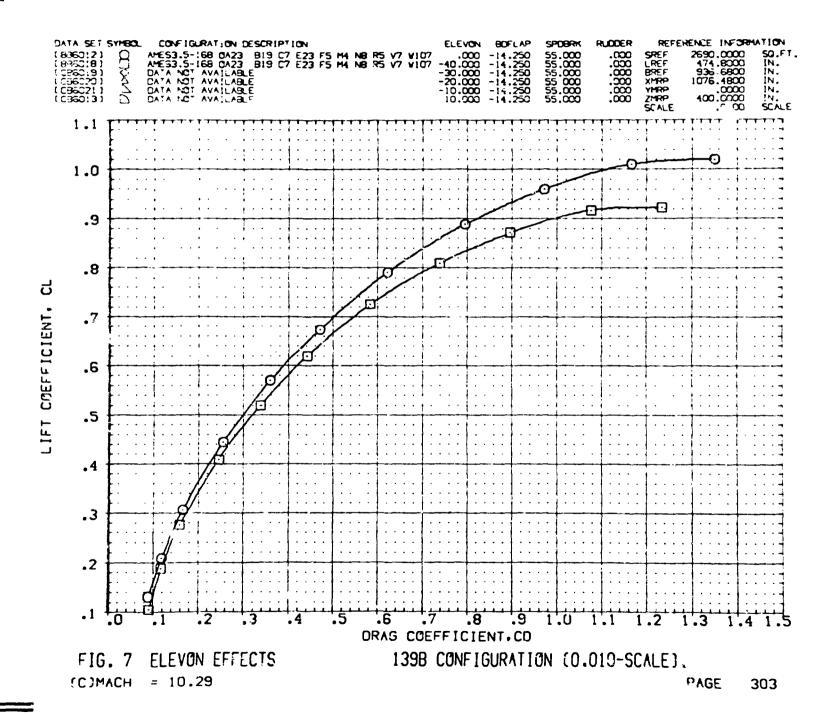
Report











DATA SET SYMBOL CONFIGURATION DESCRIPTION

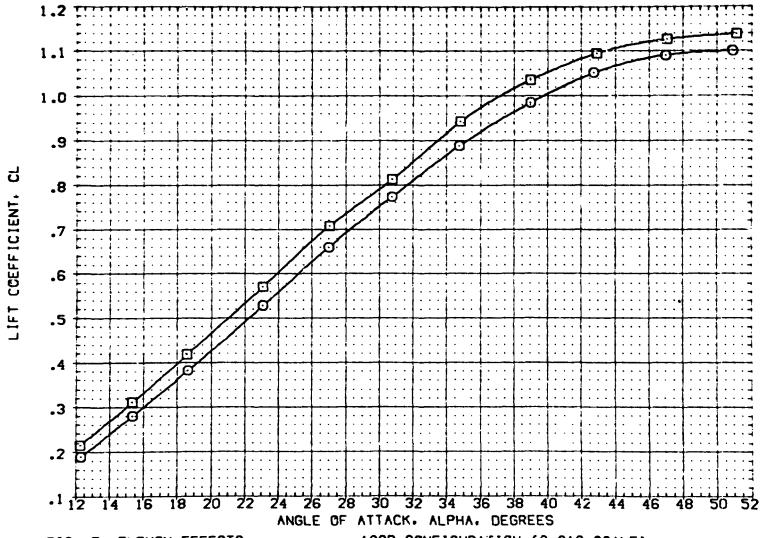
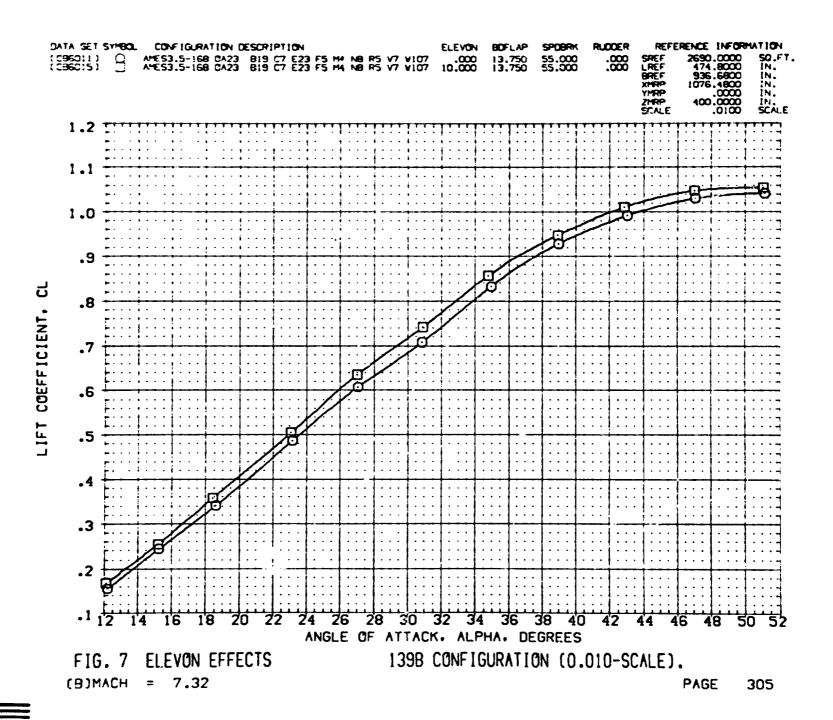
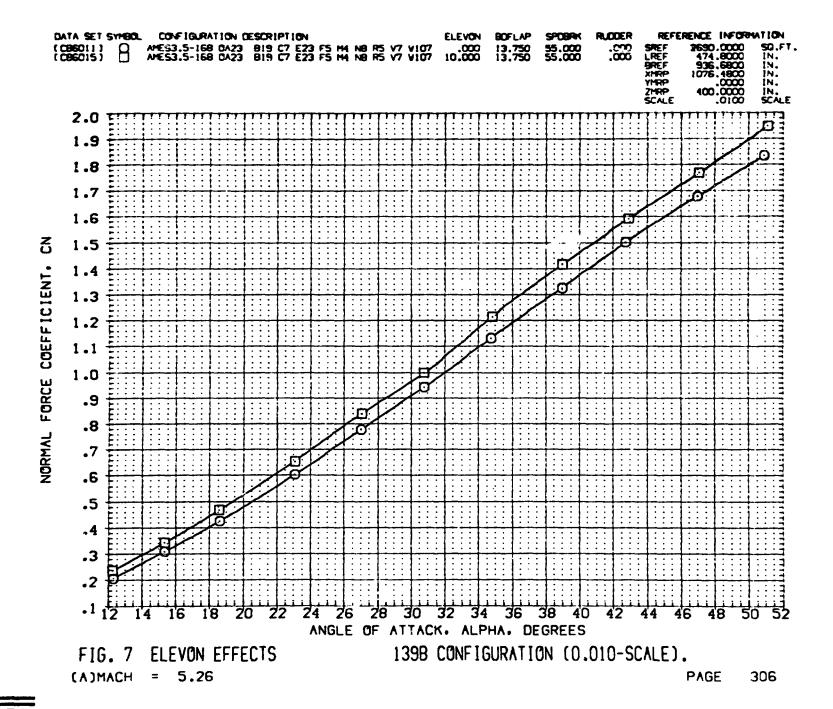


FIG. 7 ELEVON EFFECTS (A)MACH = 5.26

139B CONFIGURATION (0.010-SCALE).







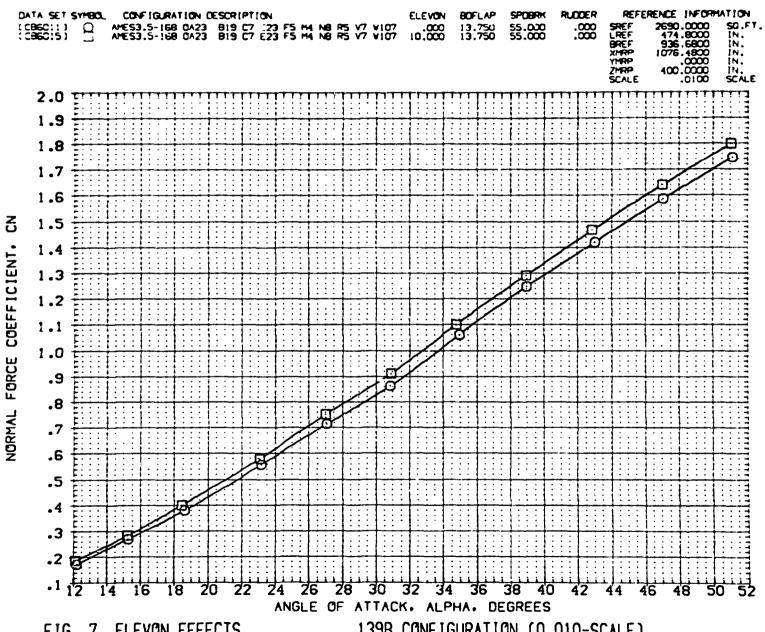
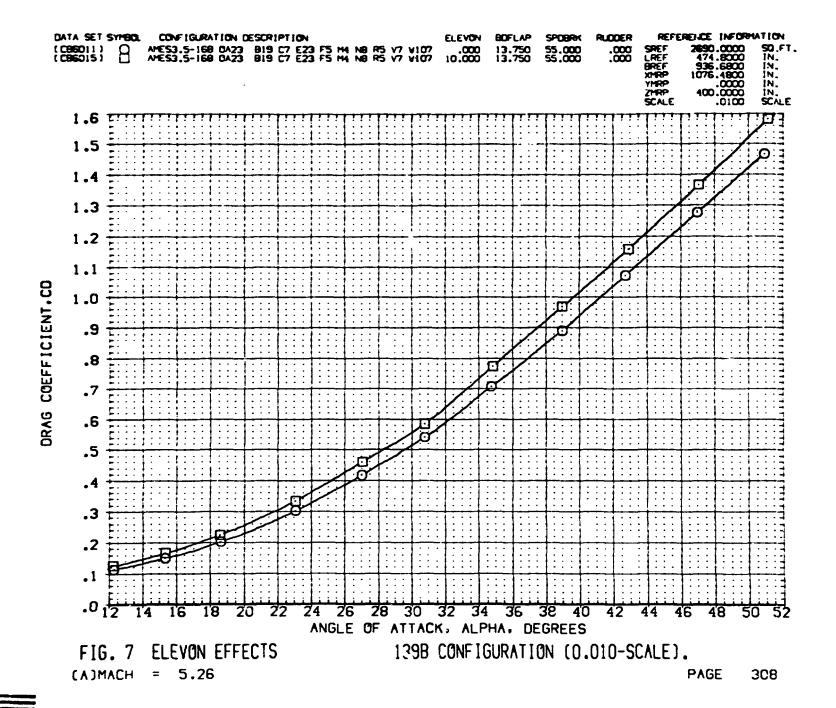
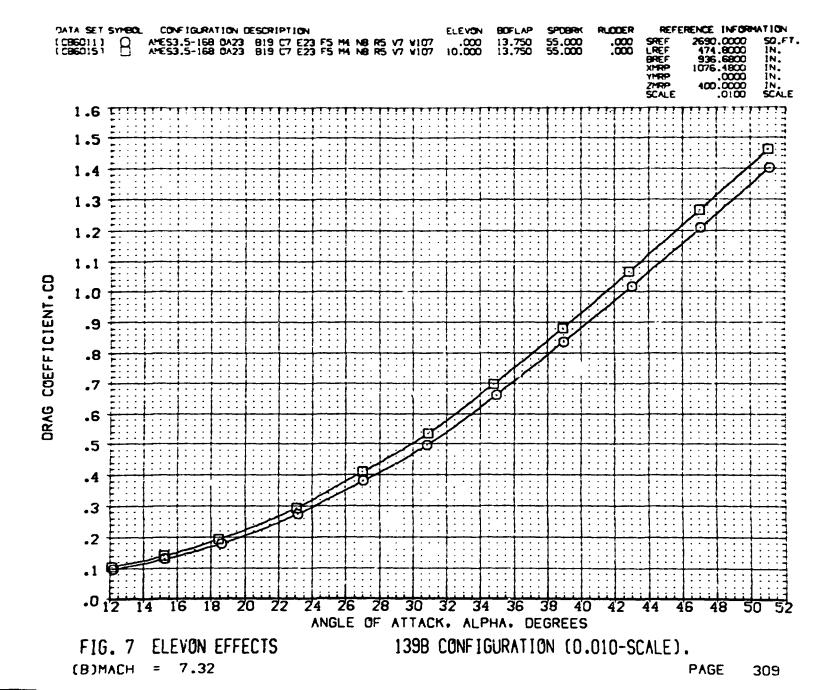


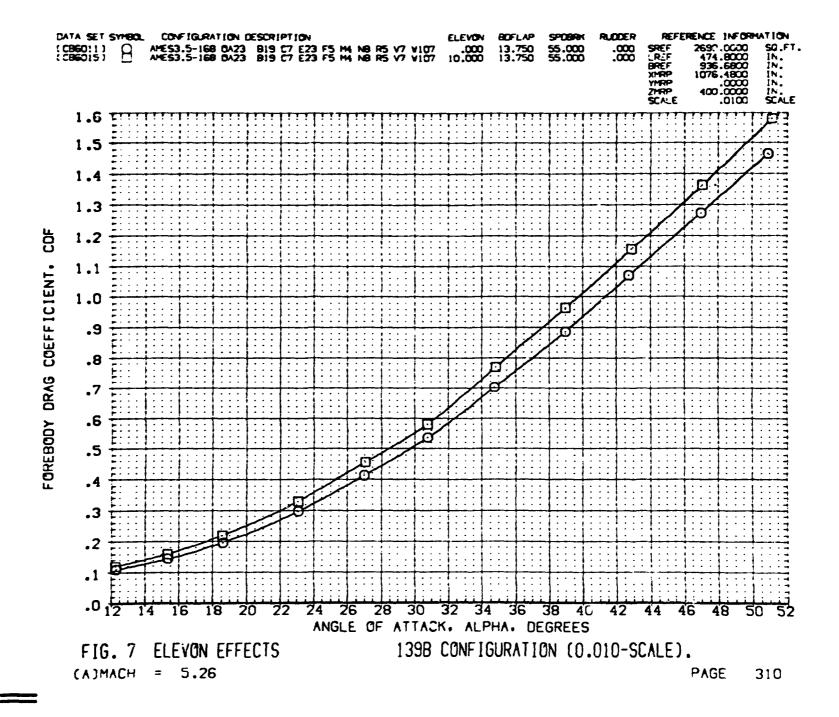
FIG. 7 ELEVON EFFECTS

139B CONFIGURATION (0.010-SCALE).

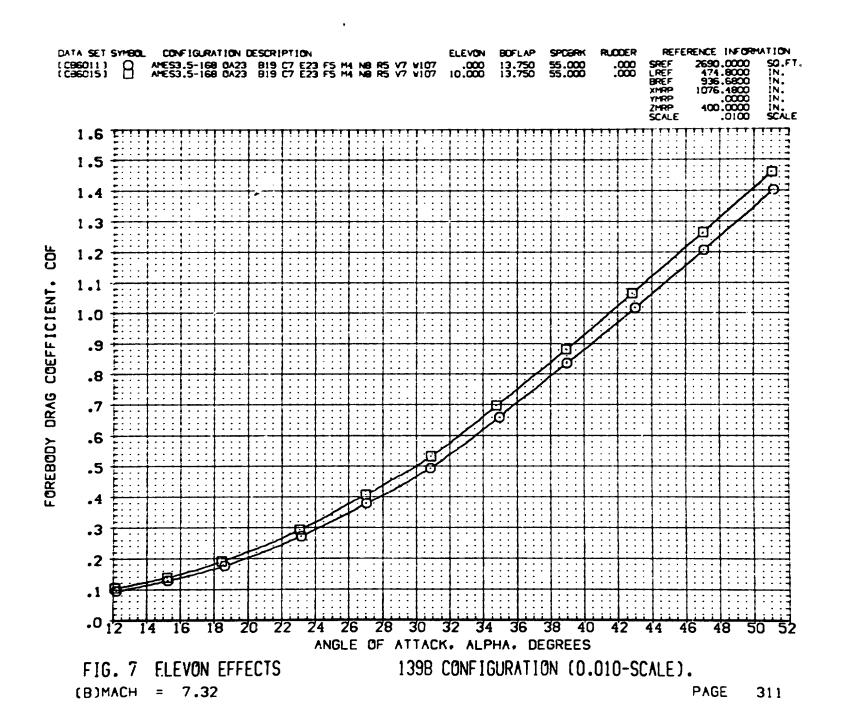
(B)MACH = 7.32

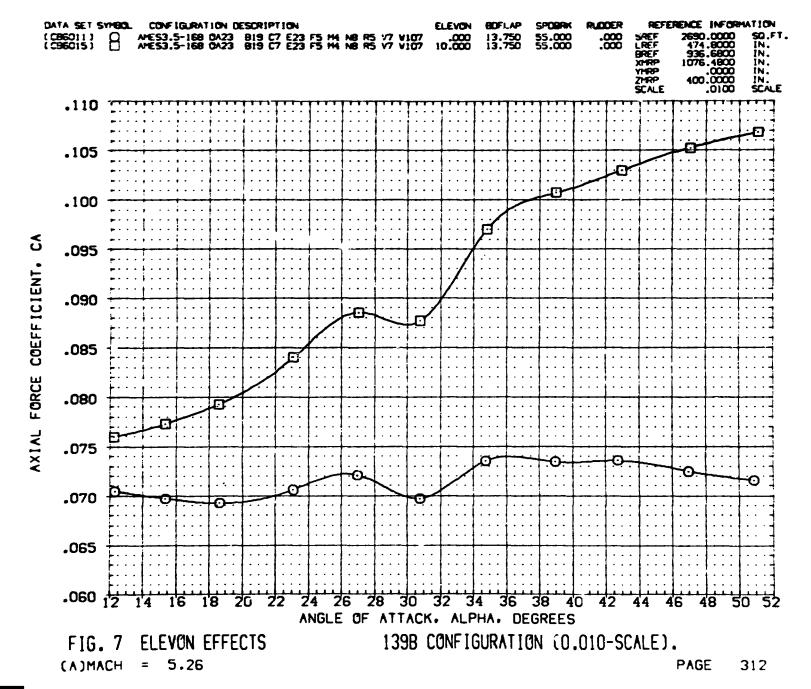






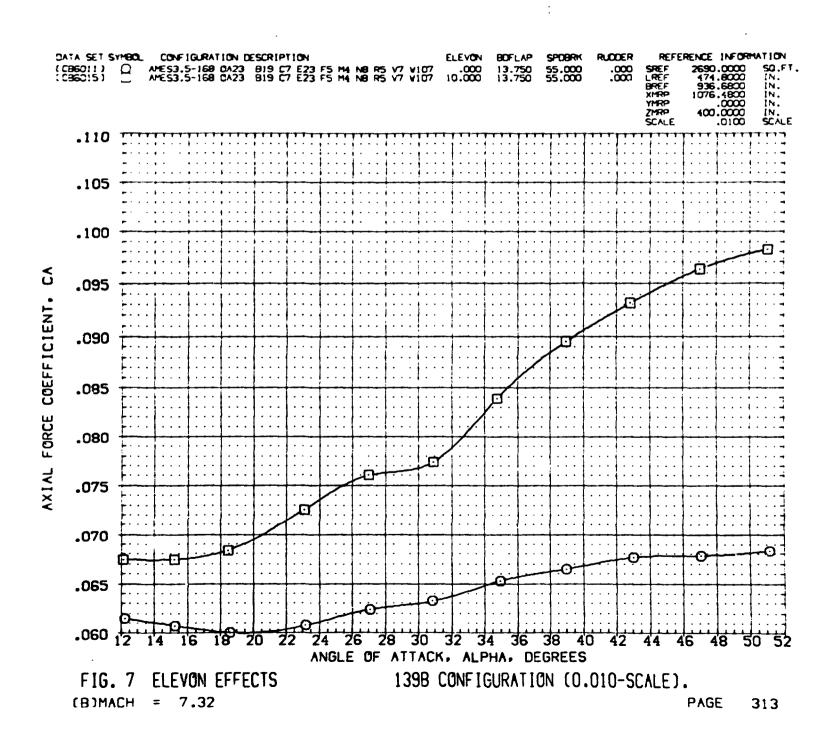
**\*** \*

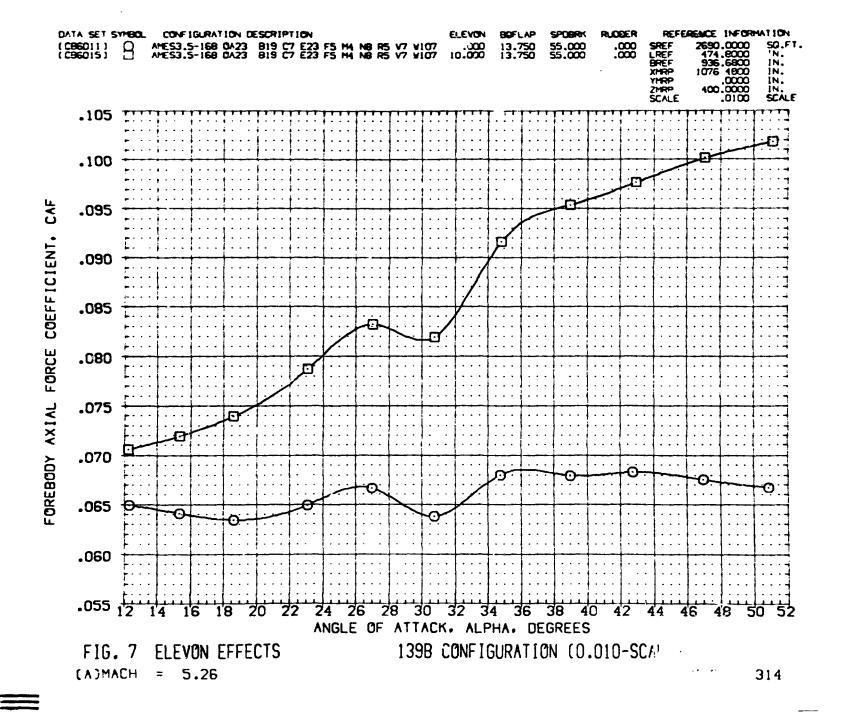


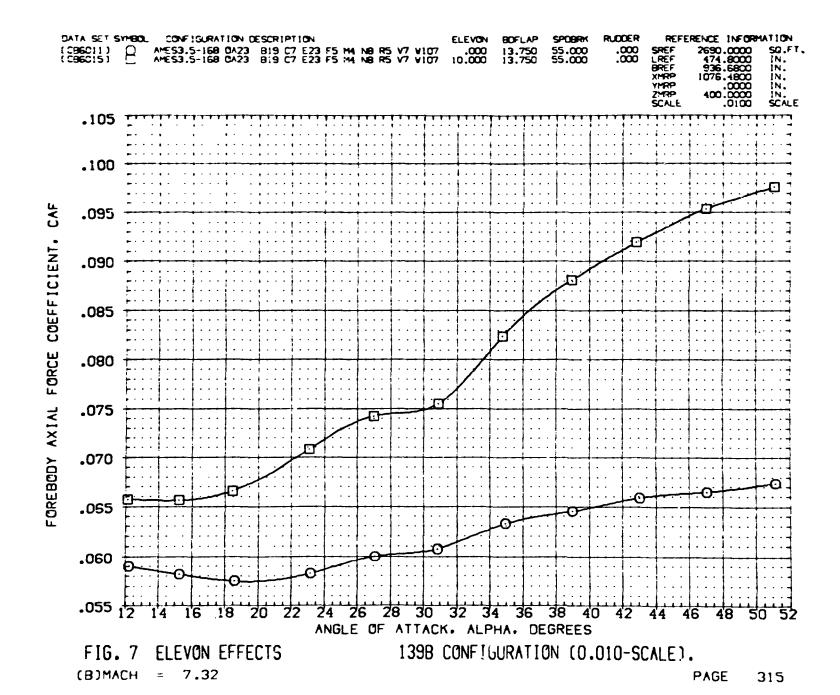


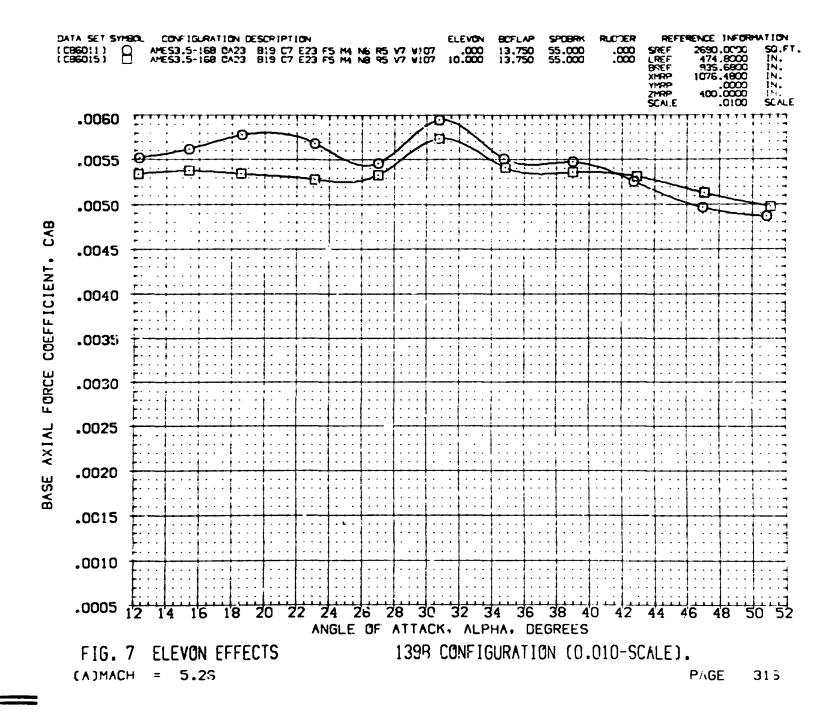
=

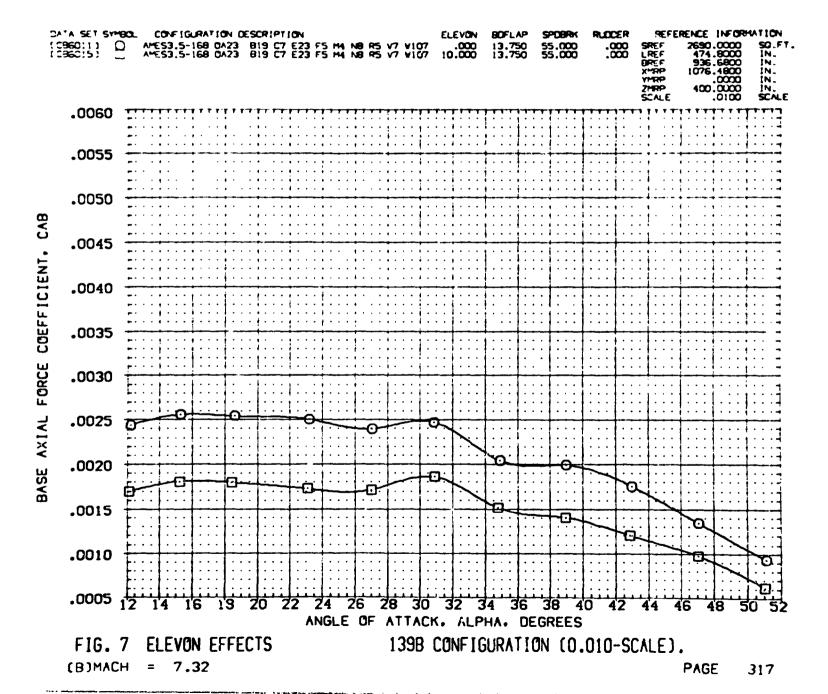


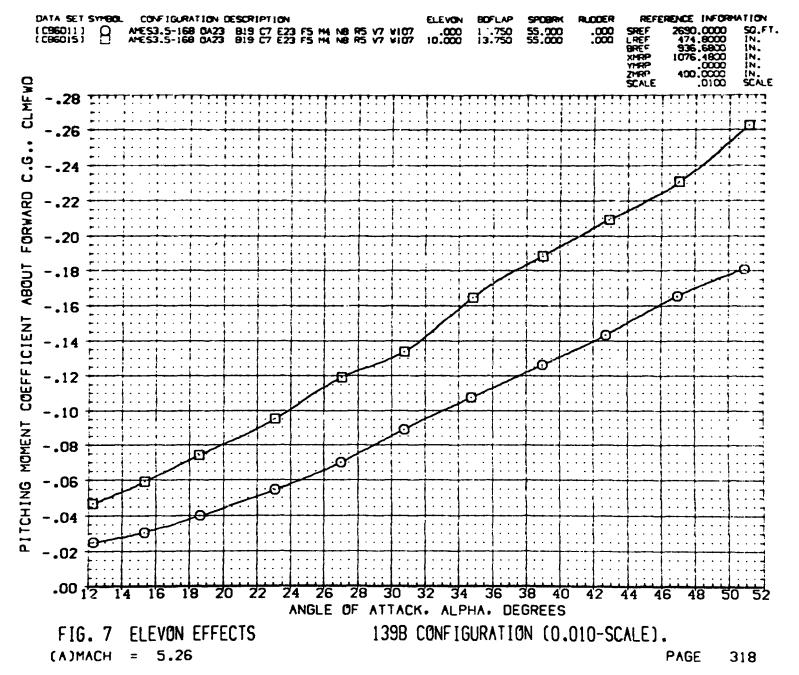




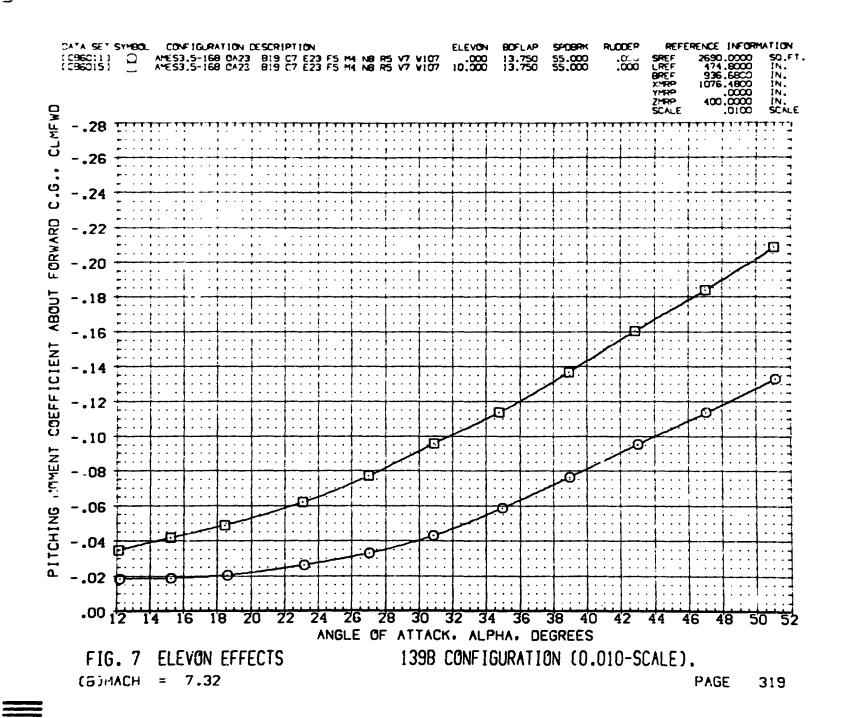












DATA SET SYMBOL CONFIGURATION DESCRIPTION SPOBRK RUCCER ELEVON . . . . . . ເວ ABOUT -.10 -.09 PITCHING MOMENT COEFFICIENT -.08 -.07 -.06 -.05 -.04 -.03 -.02 -.01 .00 ANGLE OF ATTACK. ALPHA. DEGREES 139B CONFIGURATION (0.010-SCALE). FIG. 7 ELEVON EFFECTS (A)MACH = 5.26PAGE 320

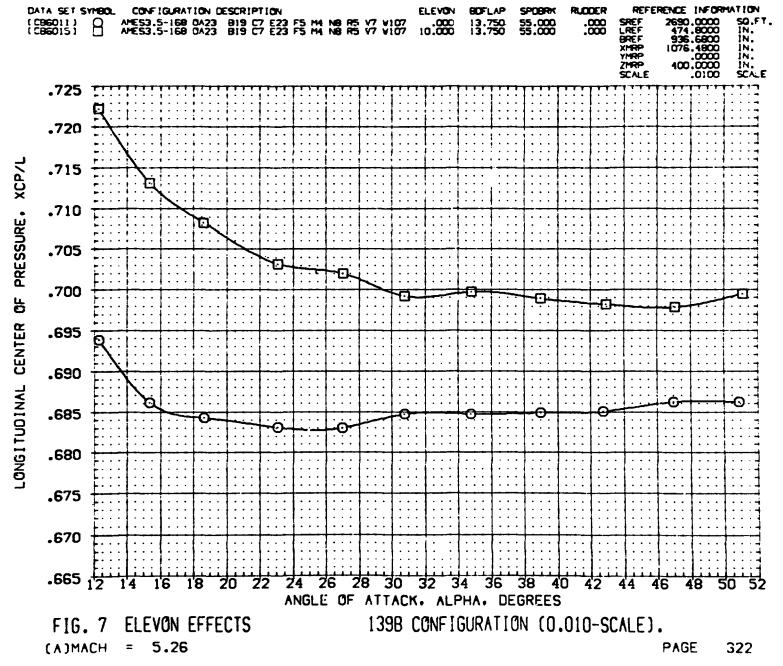


DATA SET SYMBOL CONFIGURATION DESCRIPTION -.09 COEFF ICIENT -.08 -.07 -.06 -.05 MOMENT -.04 -.03 P I TCH I NG -.02 -.01 É .00 ANGLE OF ATTACK, ALPHA, DEGREES 139B CONFIGURATION (0.010-SCALE). FIG. 7 ELEVON EFFECTS

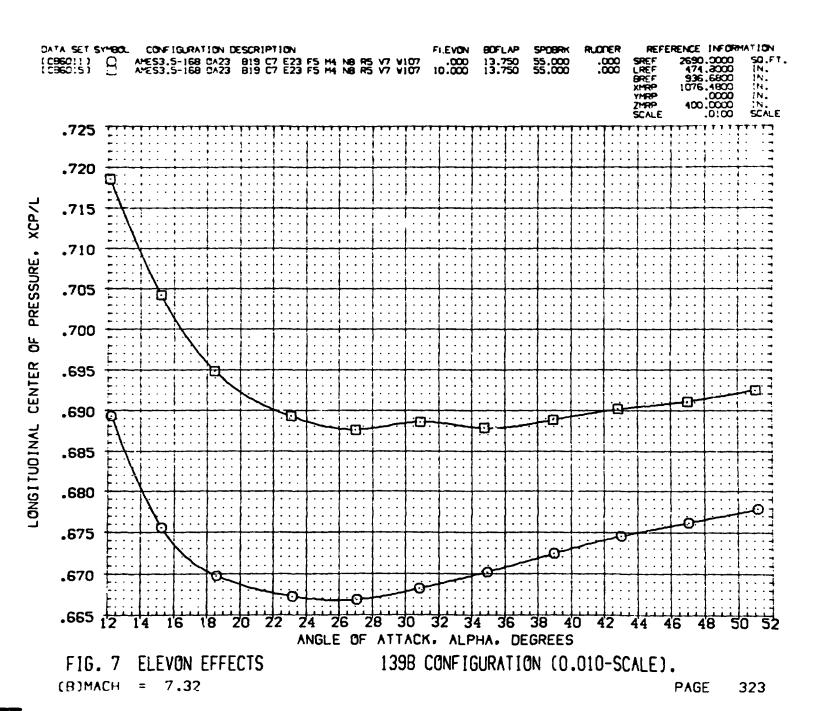
PAGE

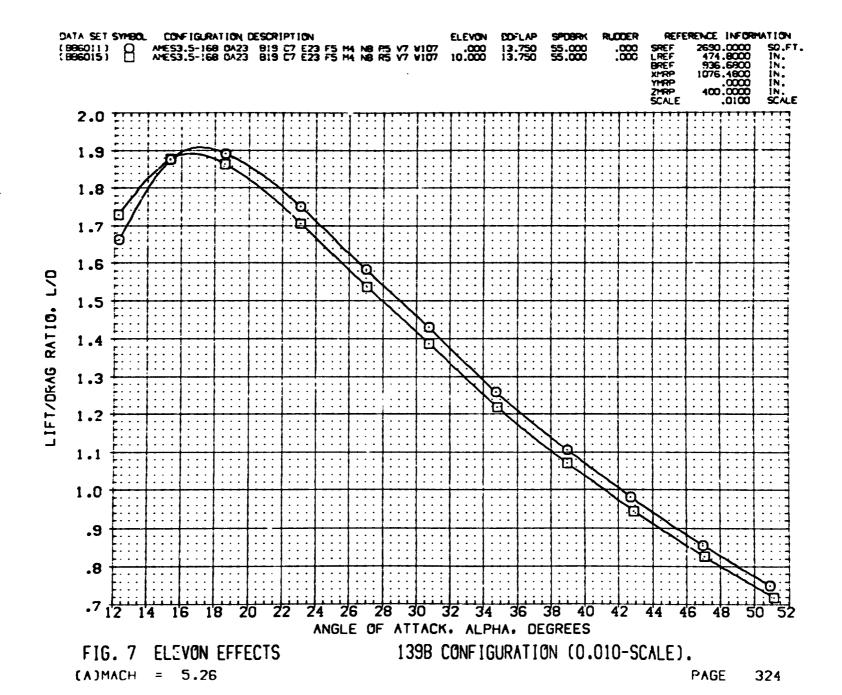
321

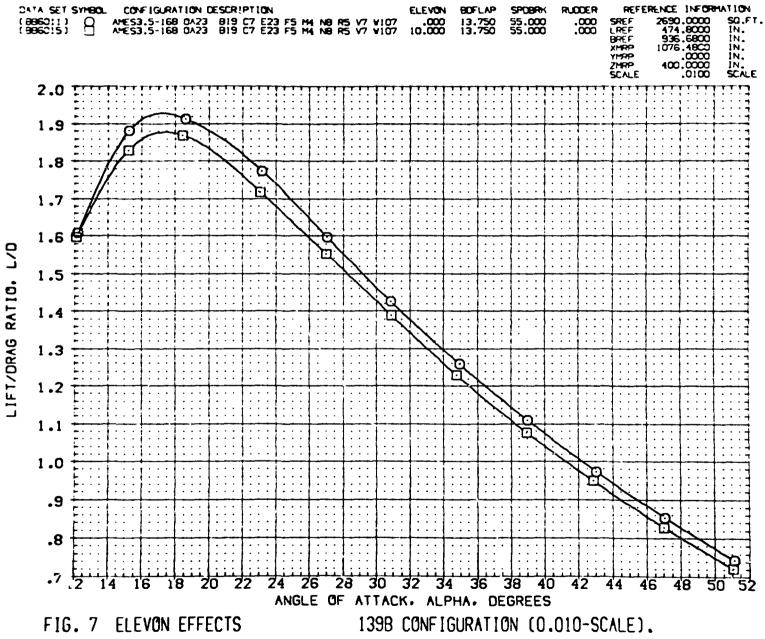
(B)MACH = 7.32







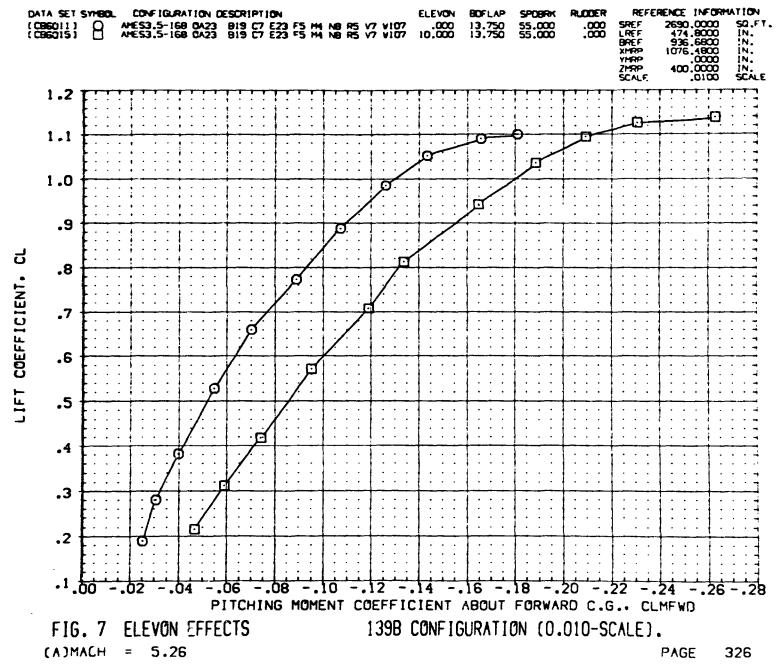




(B)MACH 7.32

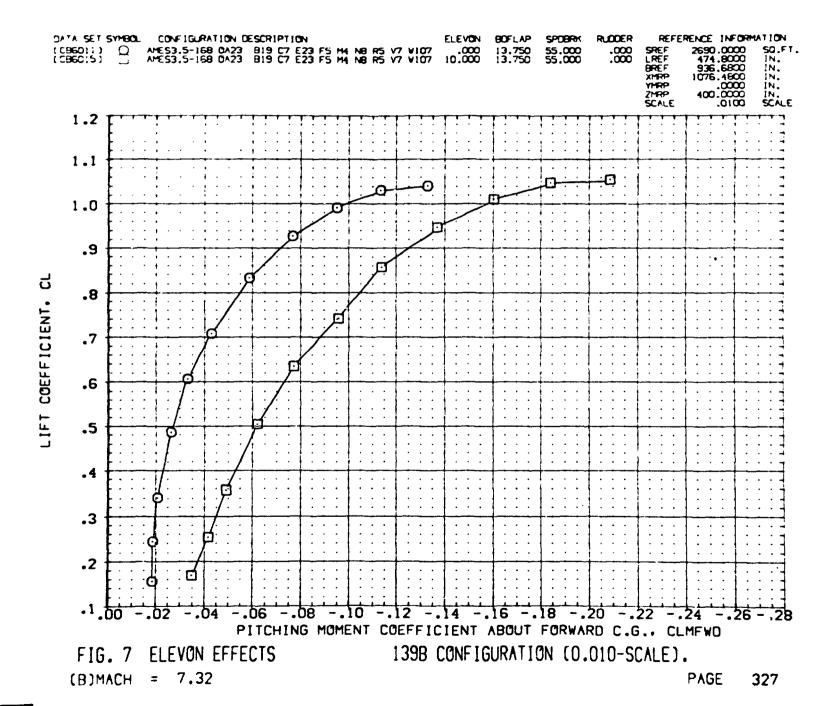
The same of the state of the state of the same of the

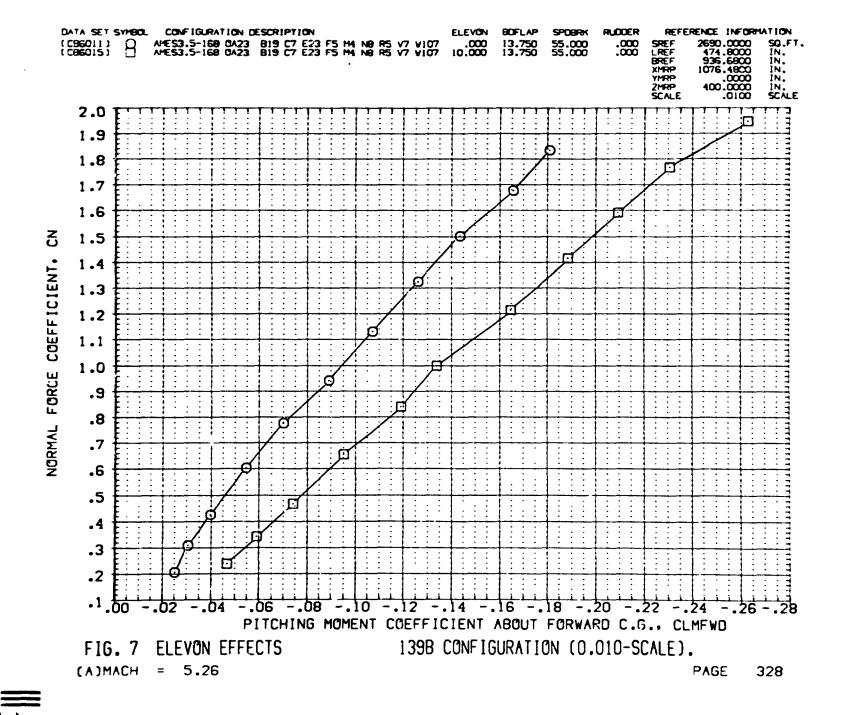
PAGE 325

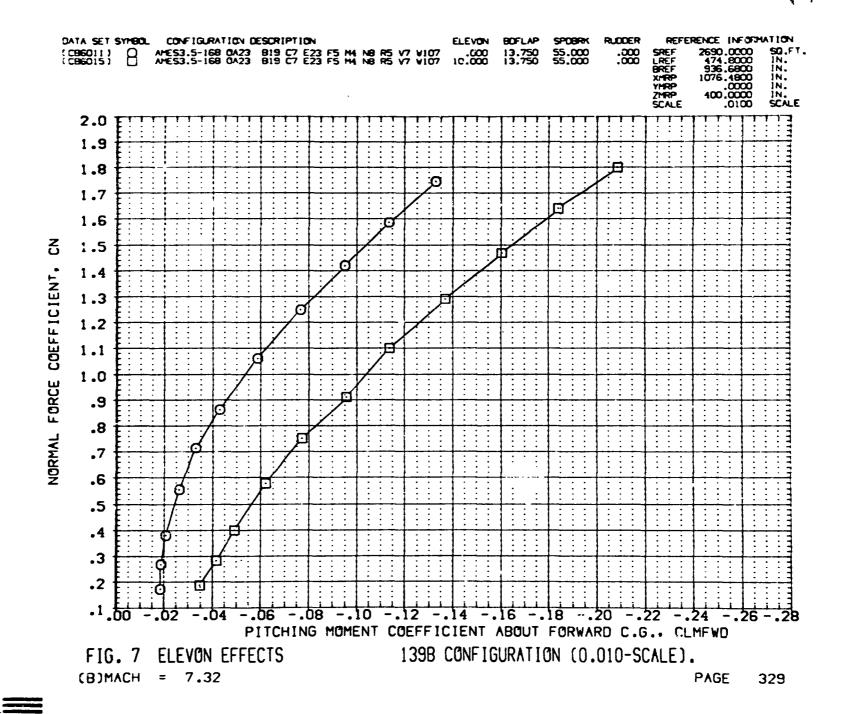


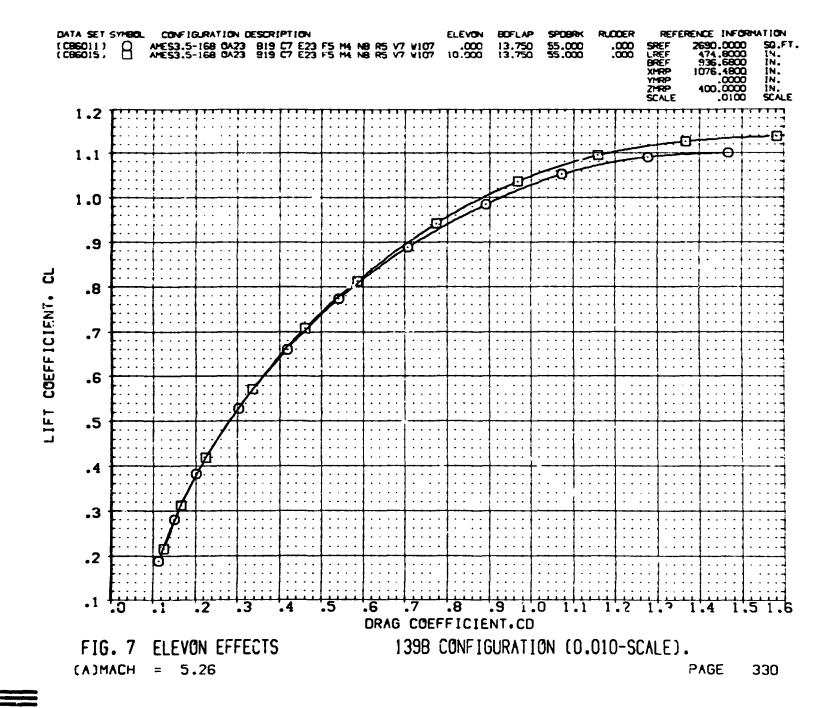
零

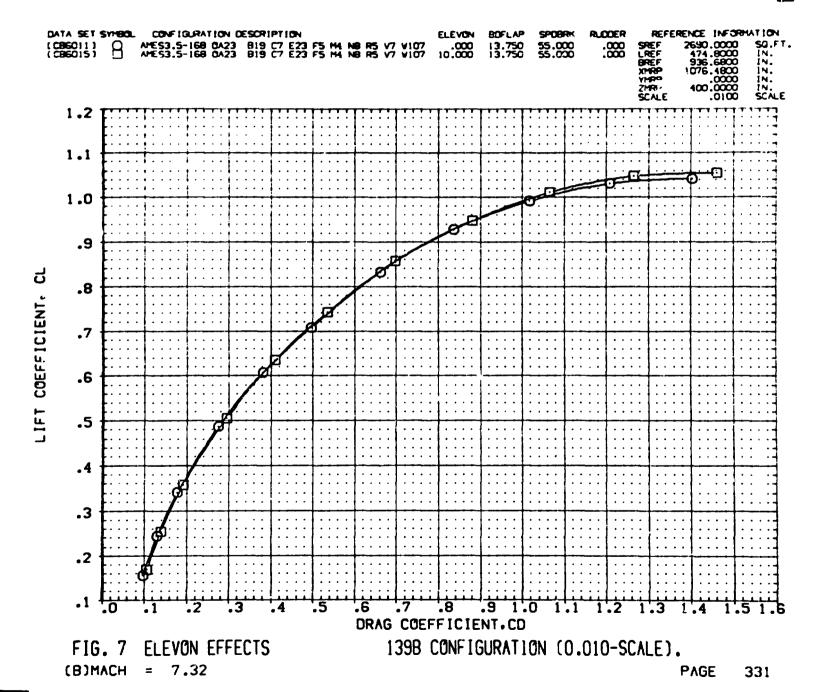
A NH & G F S S

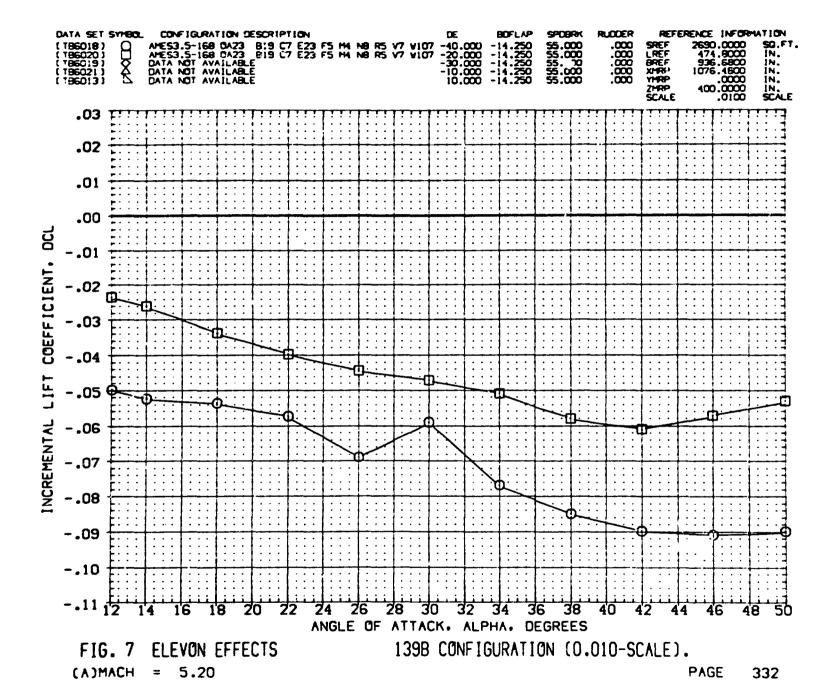




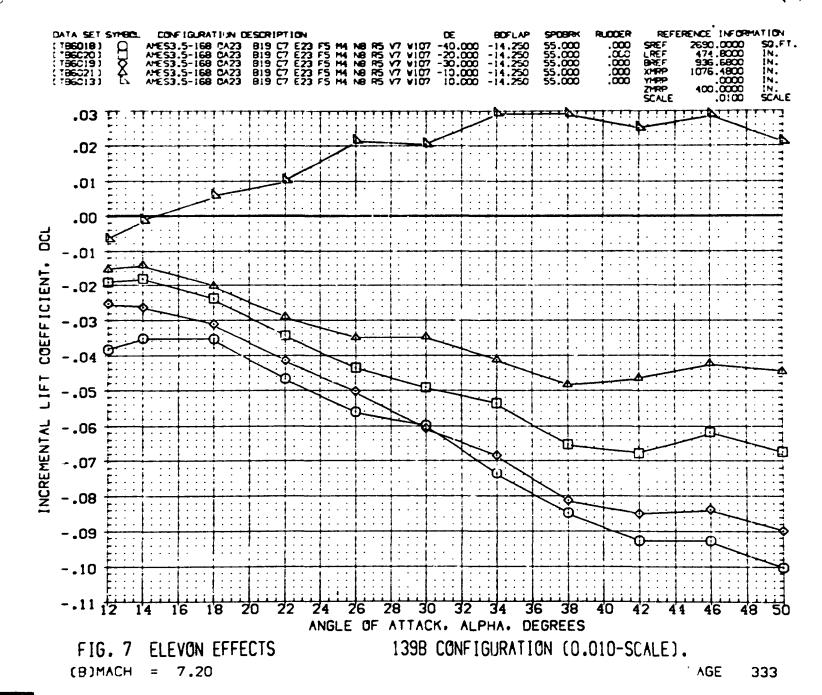


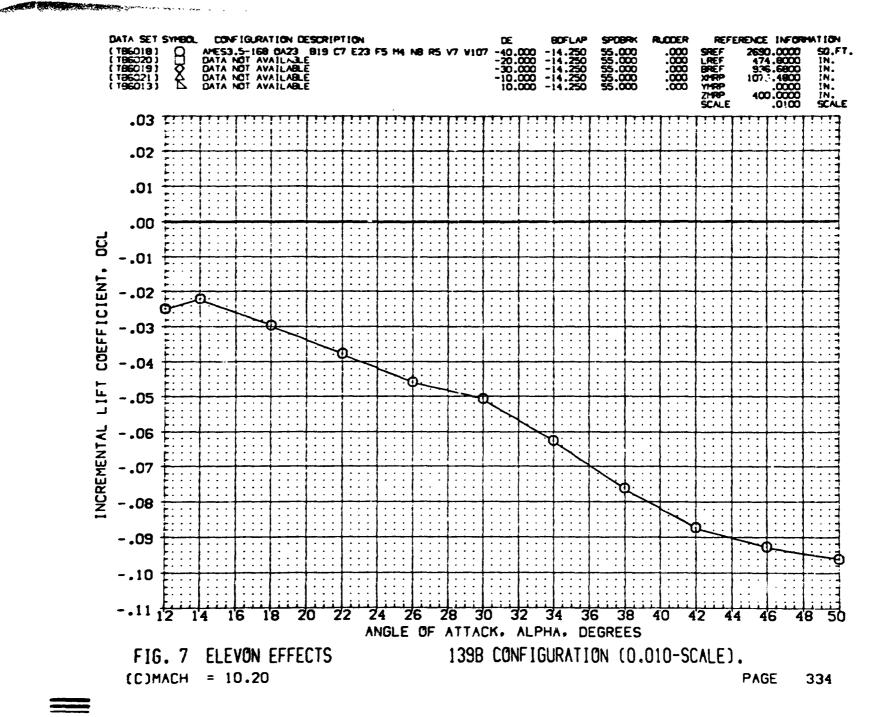






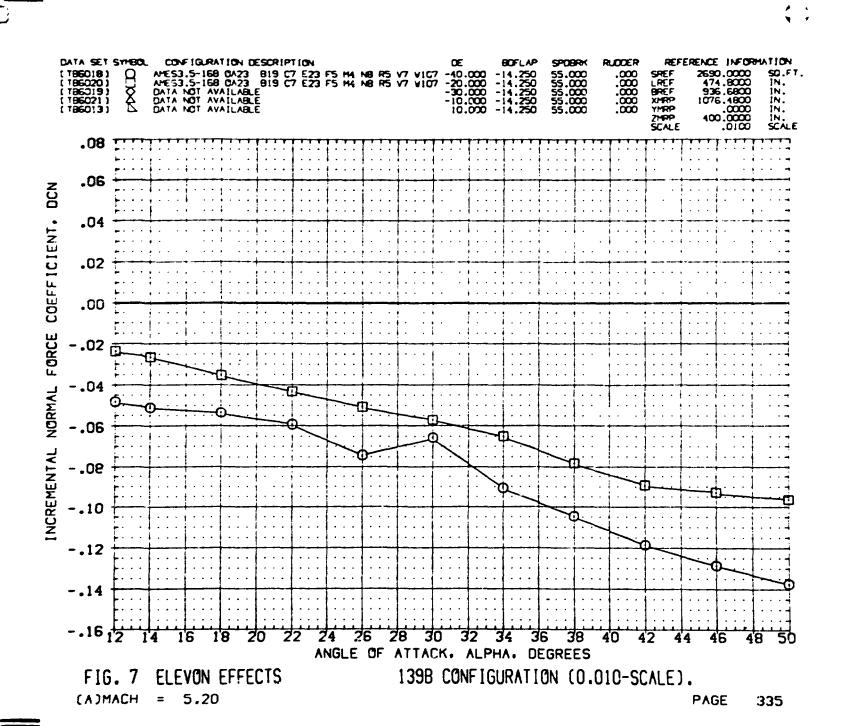
----

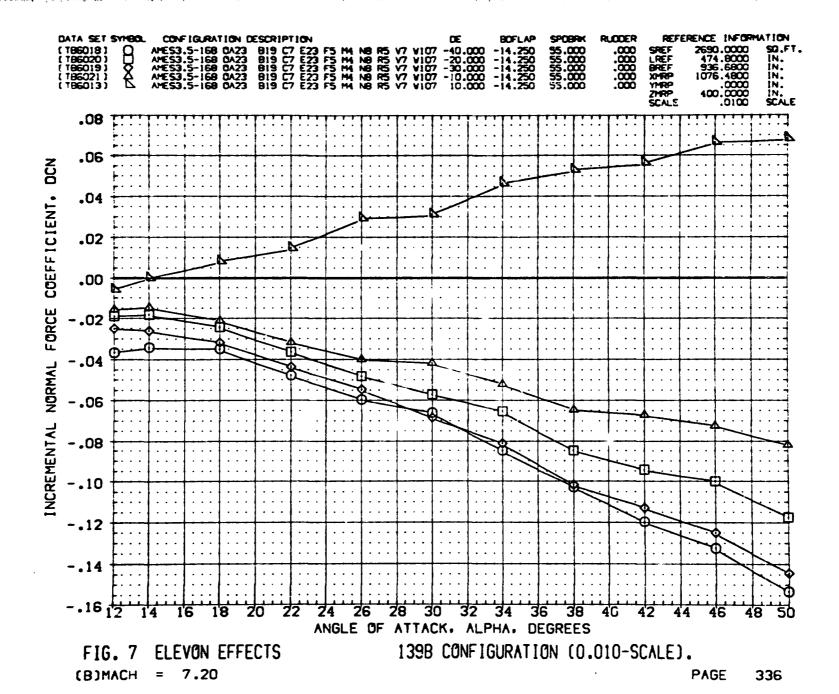


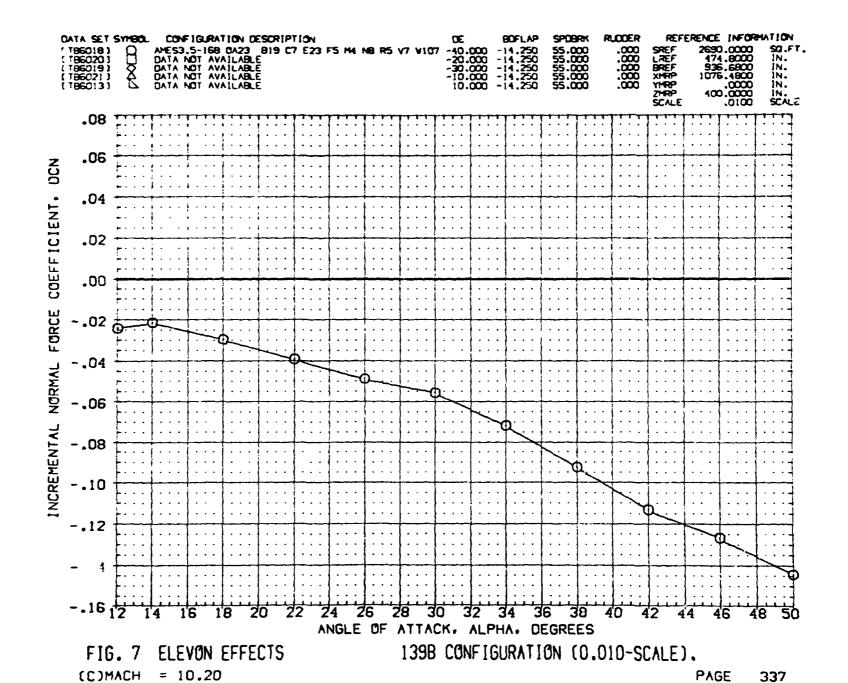


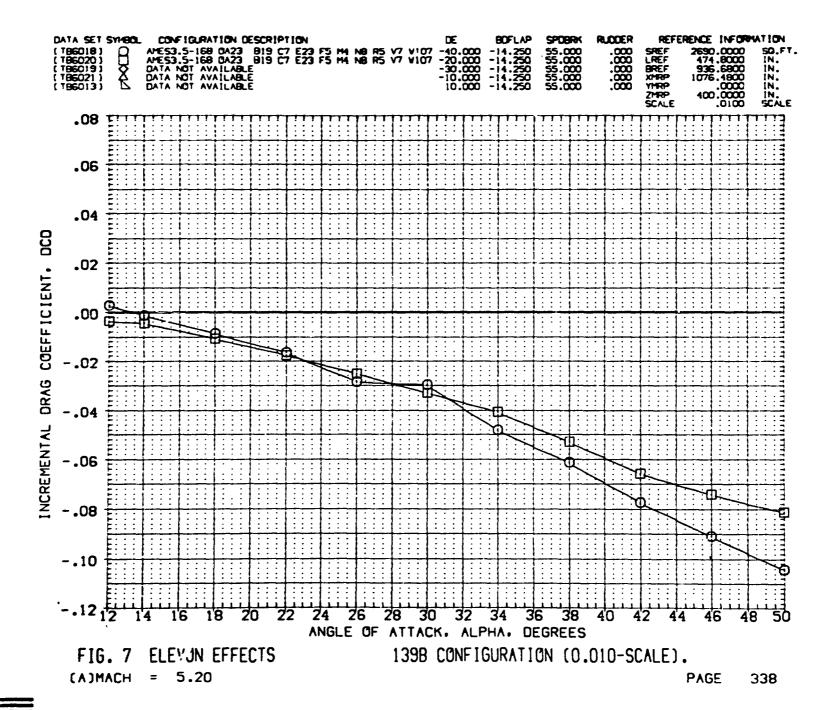
44

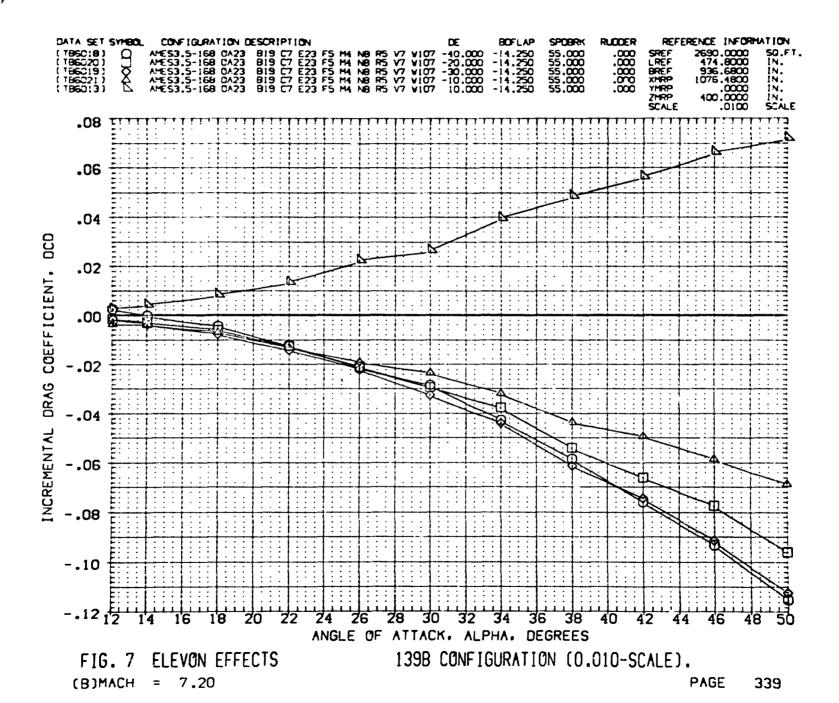
The second second second second second

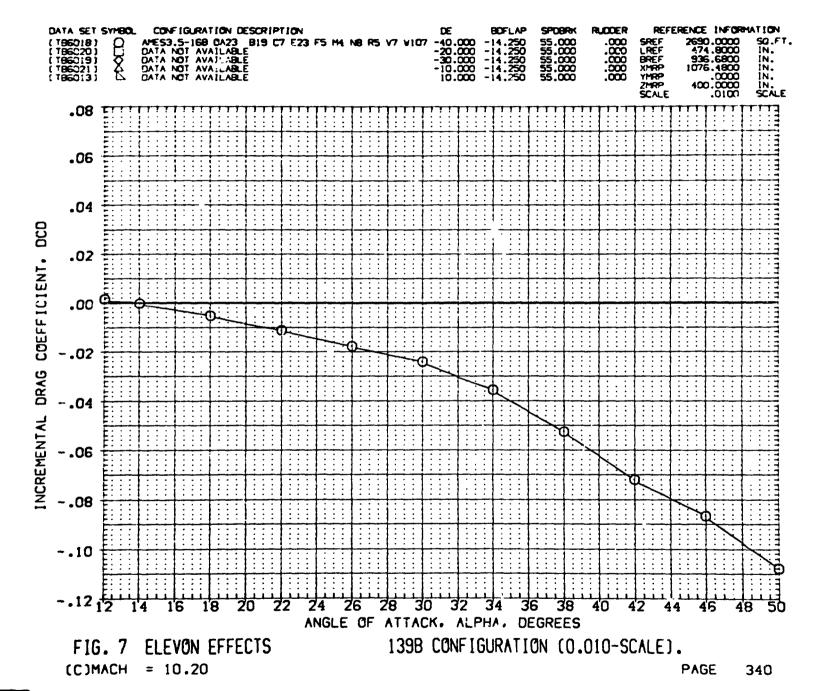




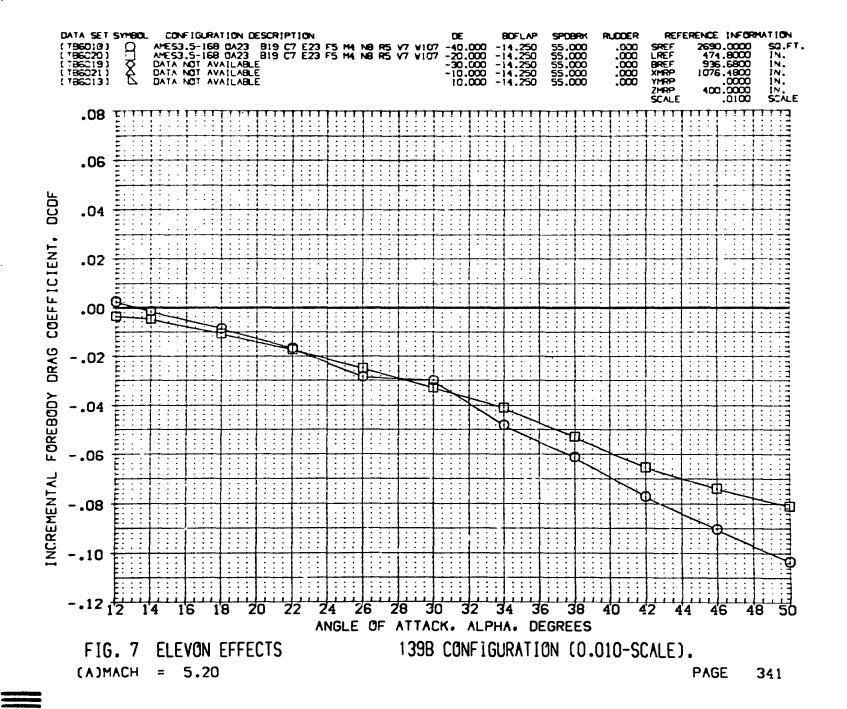


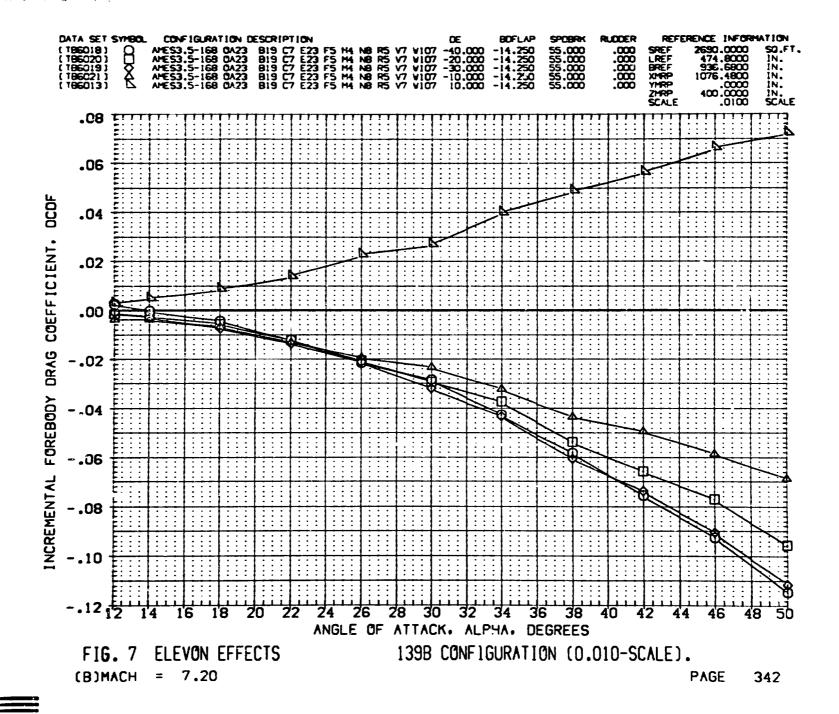


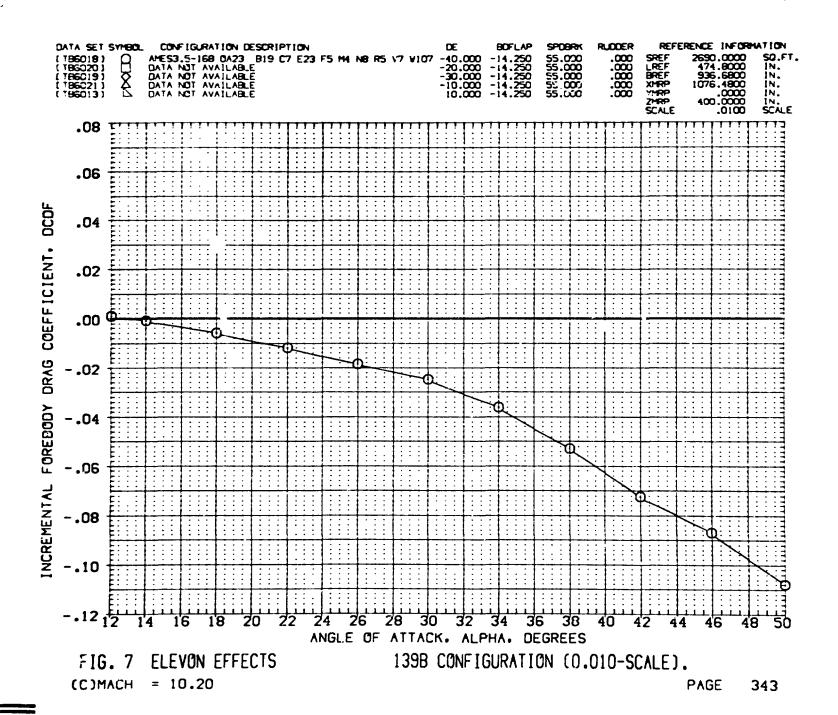


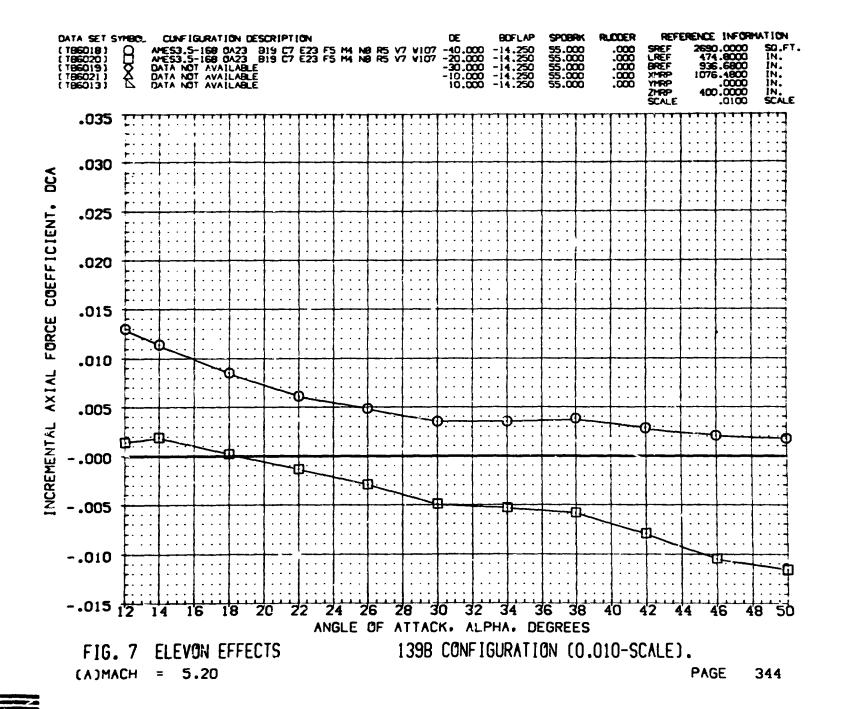


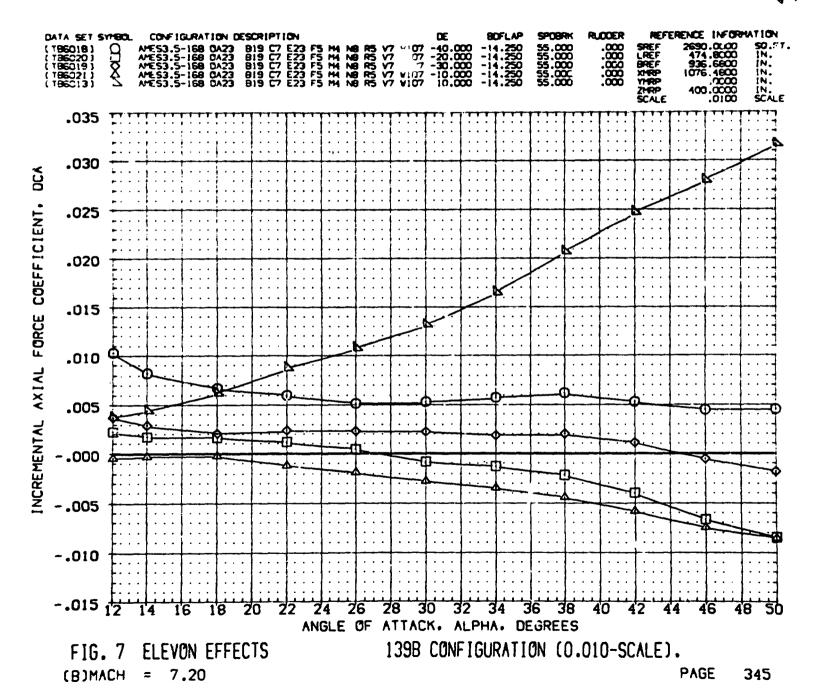
 $A = \iota$ 

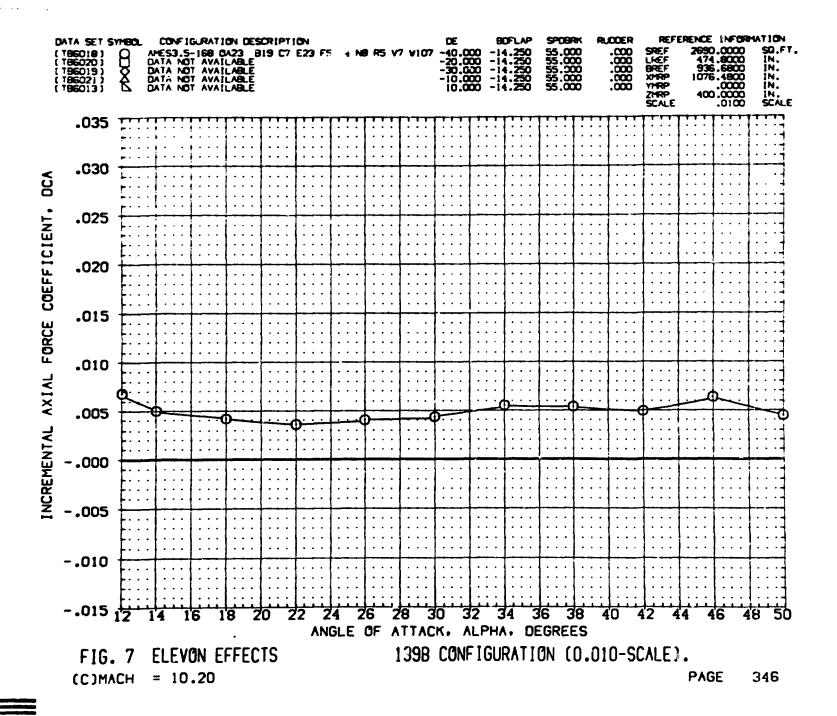


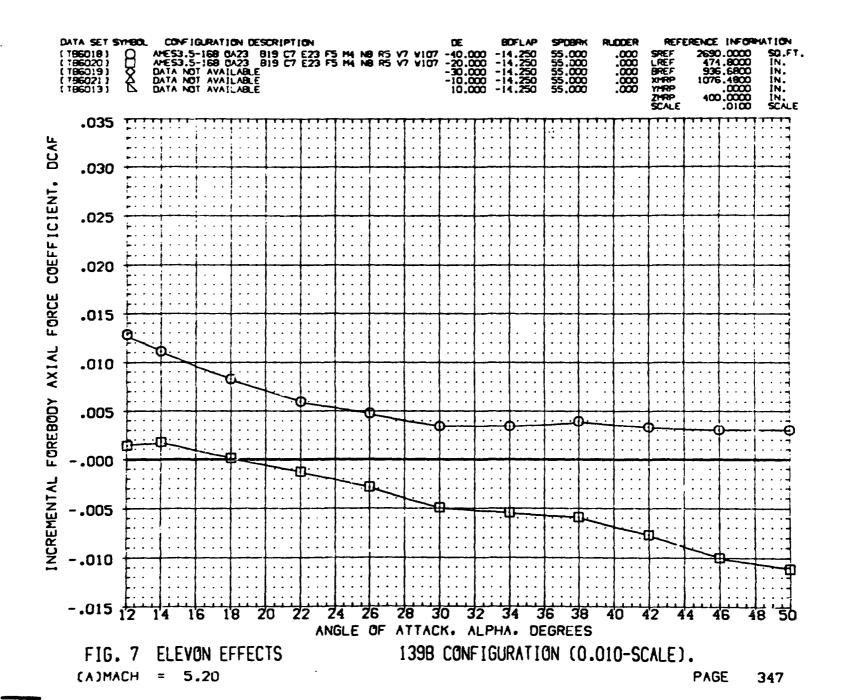


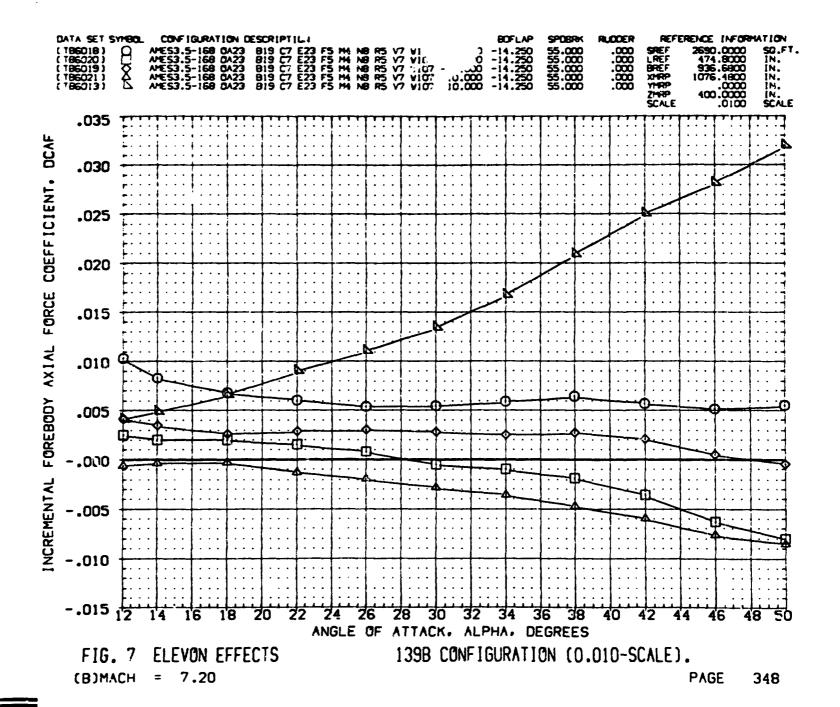


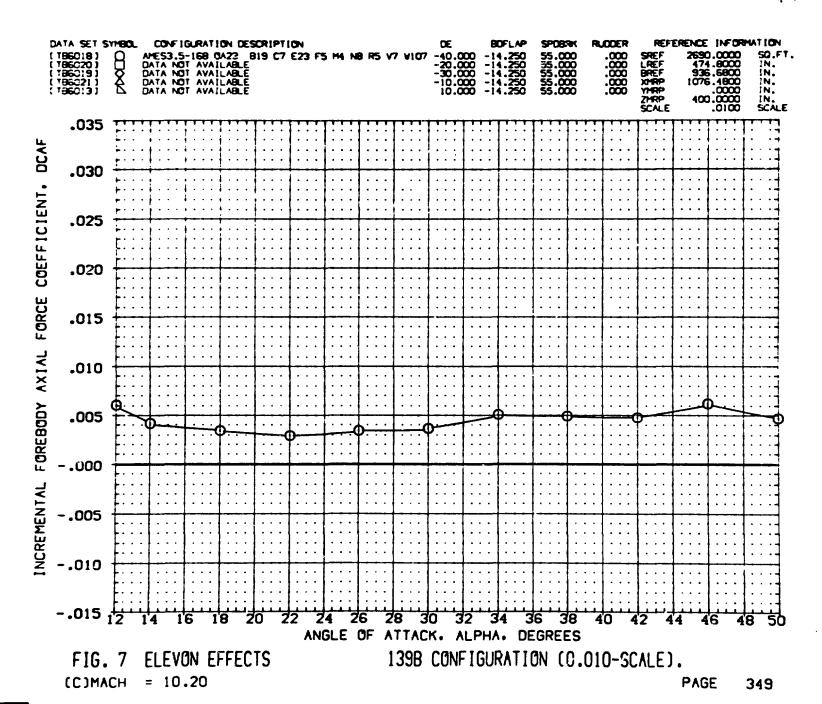


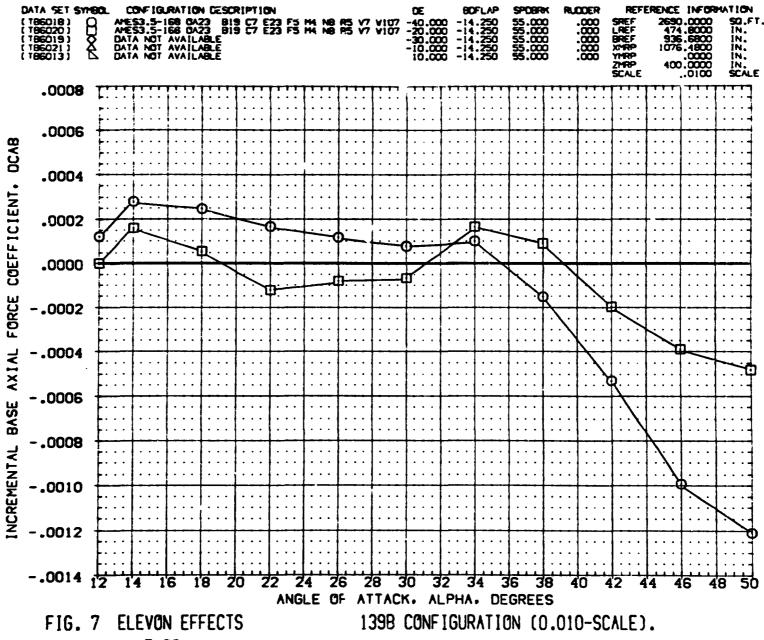








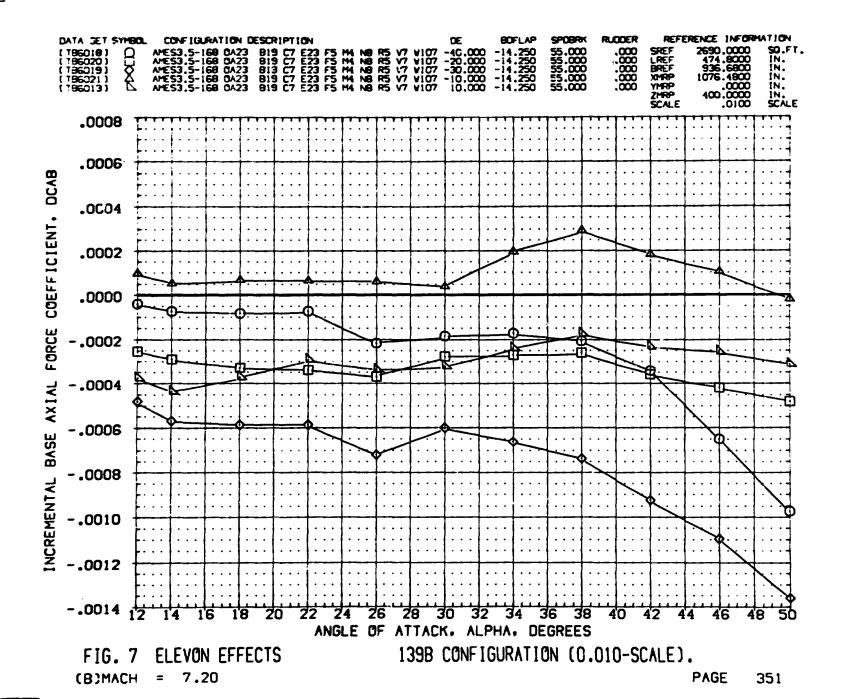




(A)MACH = 5.20

PAGE

350



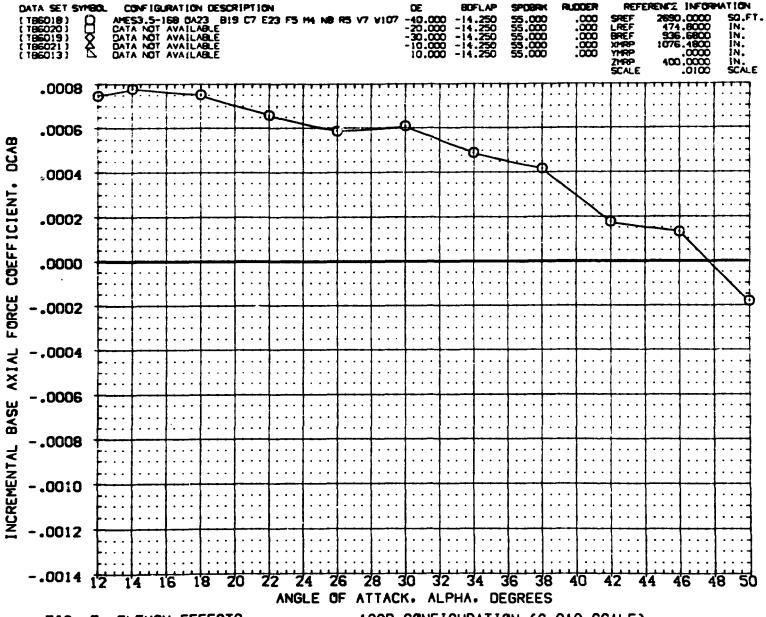
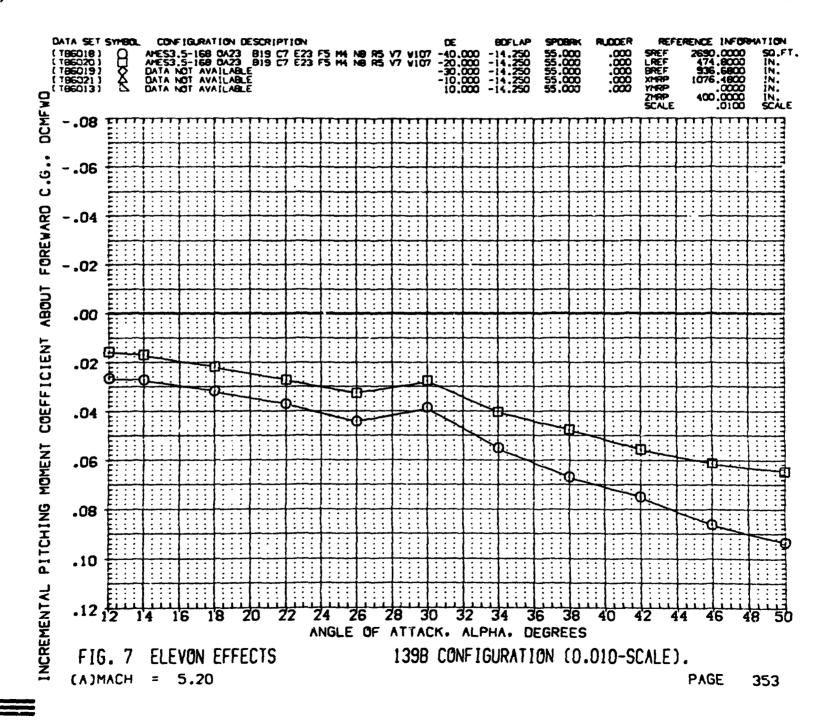


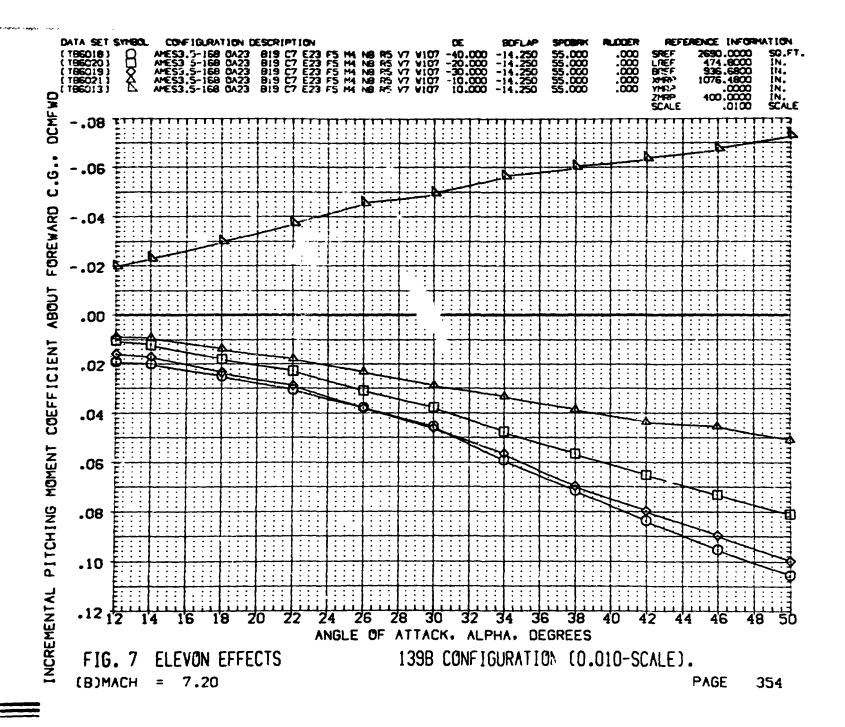
FIG. 7 ELEVON EFFECTS

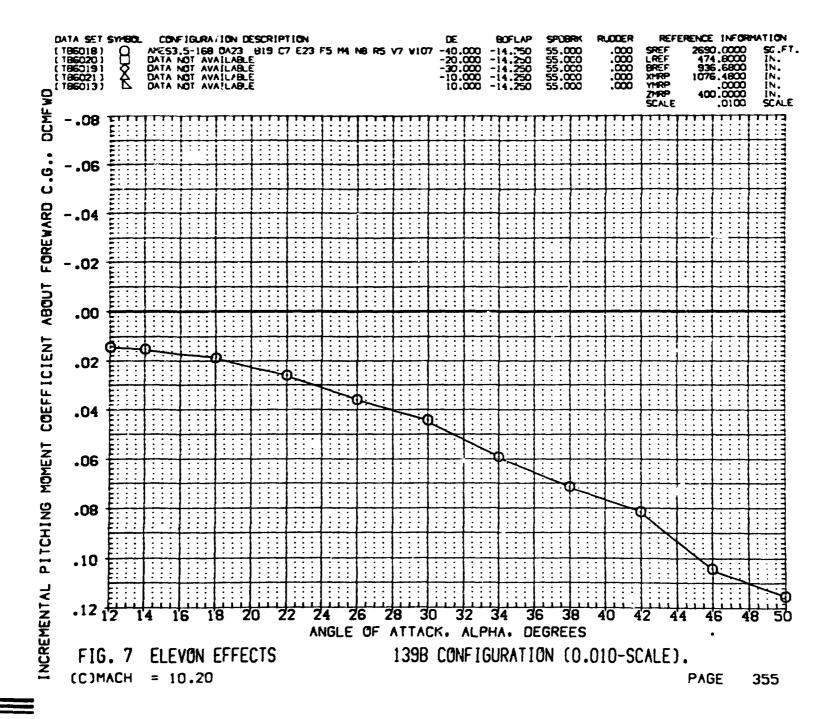
139B CONFIGURATION (0.010-SCALE).

(C)MACH = 10.20

PAGE \_ 352







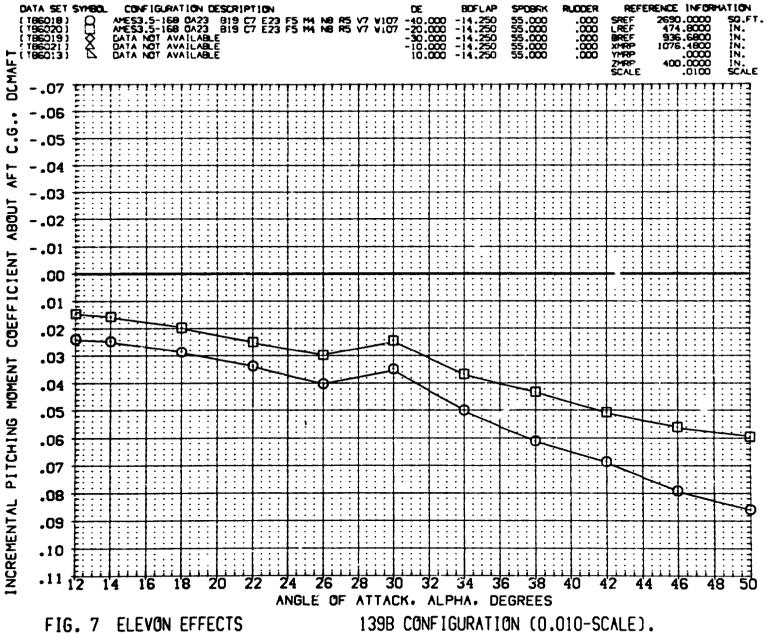


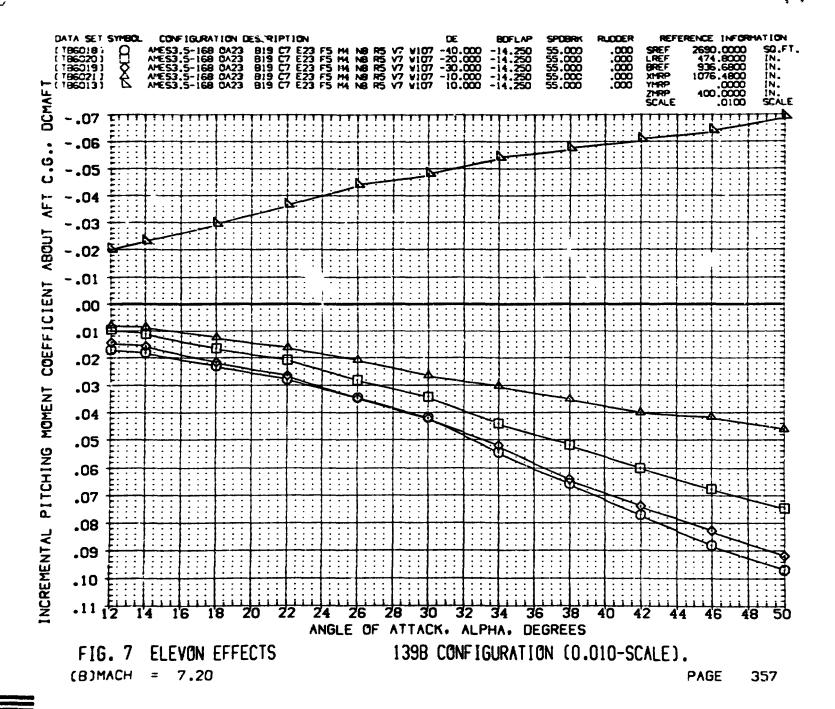
FIG. 7 ELEVON EFFECTS

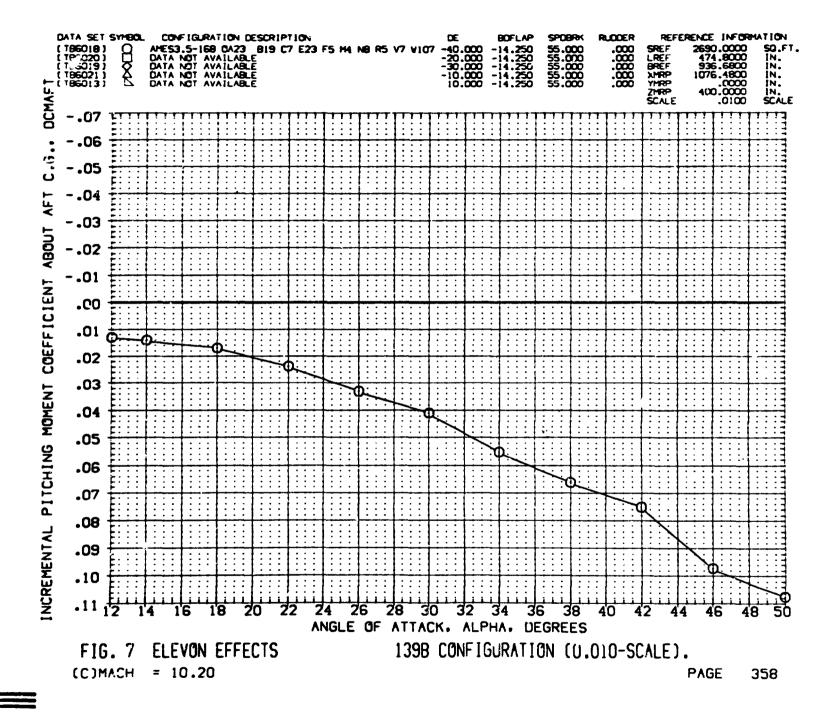
(A)MACH = 5.20

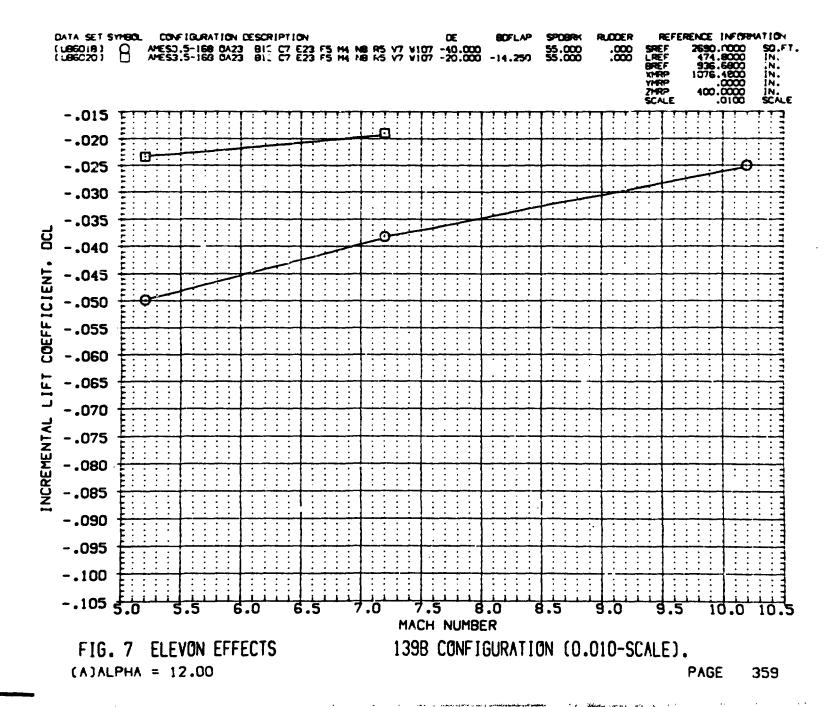
PAGE

356

/



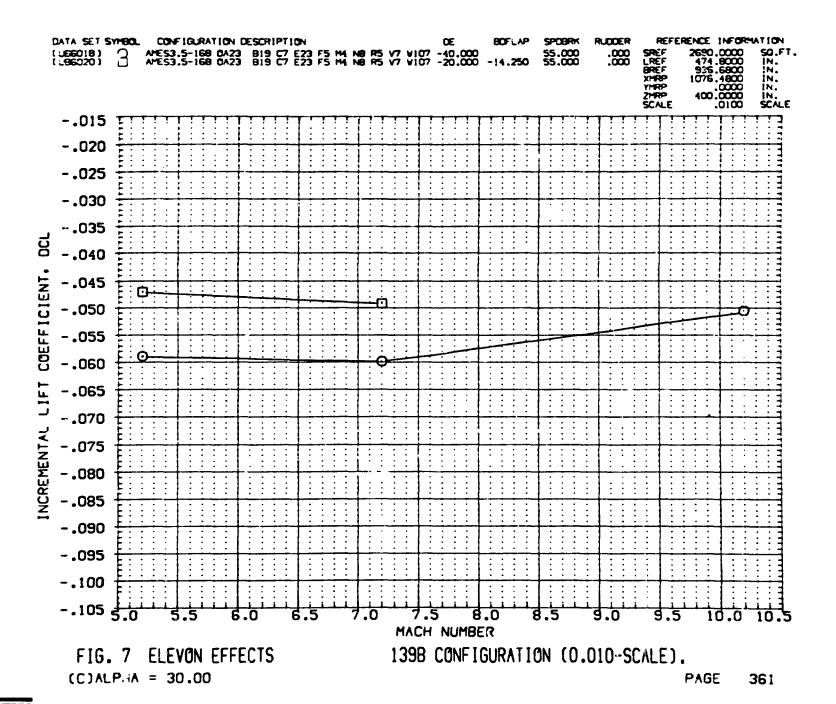


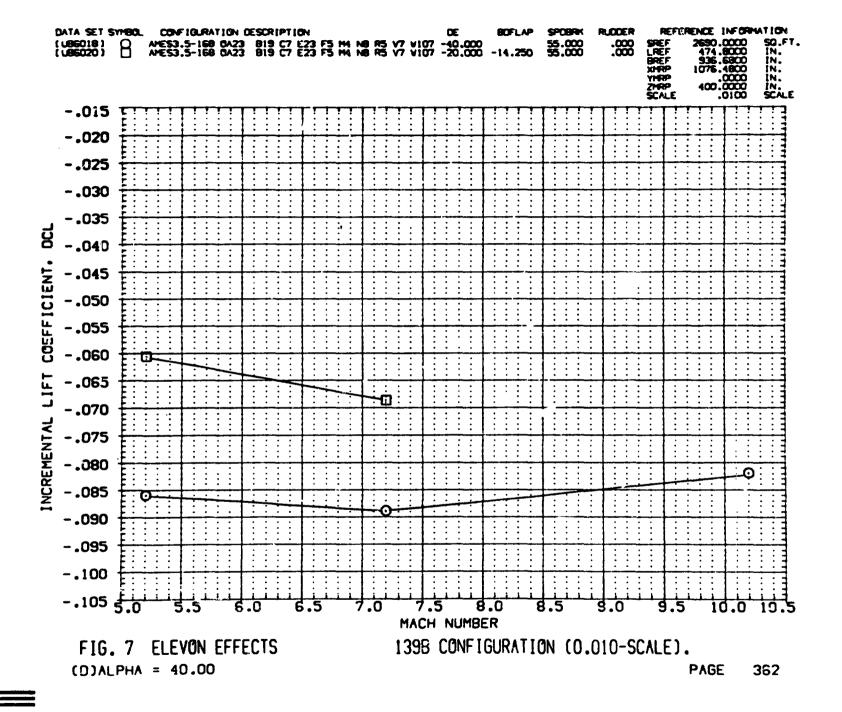


.000 -.015 -.020 -.025 -.030 -.035 -.040 -.045 -.050 -.055 -.060 INCREMENTAL. LIFT -.065 -.070 -.075 -.080 -.085 -.390 -.095 -.100  $-.105 \frac{1}{5.0}$ MACH NUMBER 139B CONFIGURATION (0.010-SCALE). FIG. 7 ELEVON EFFECTS (B)ALPHA = 20.00PAGE 360

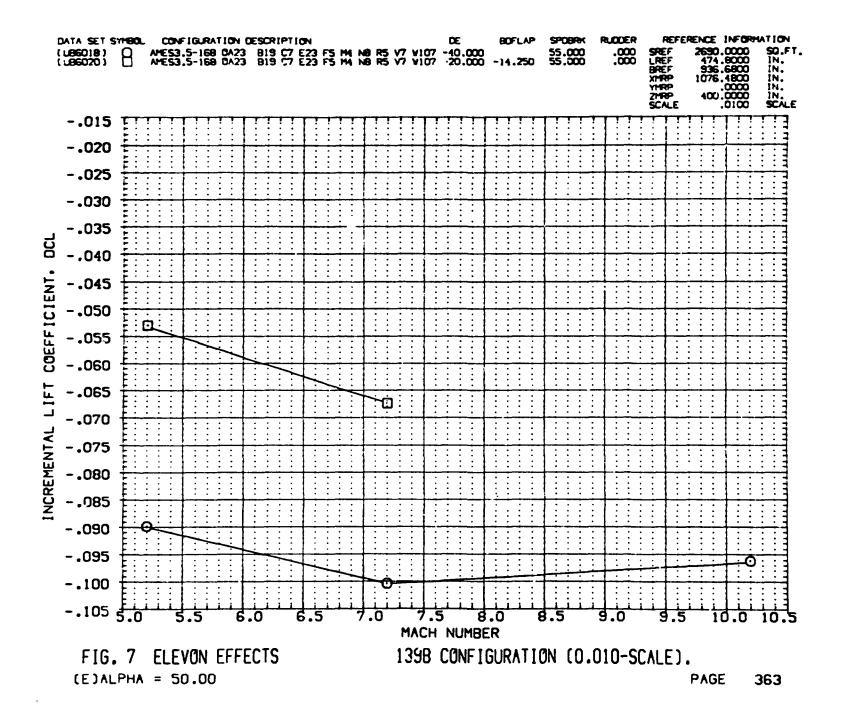
CONFIGURATION DESCRIPTION

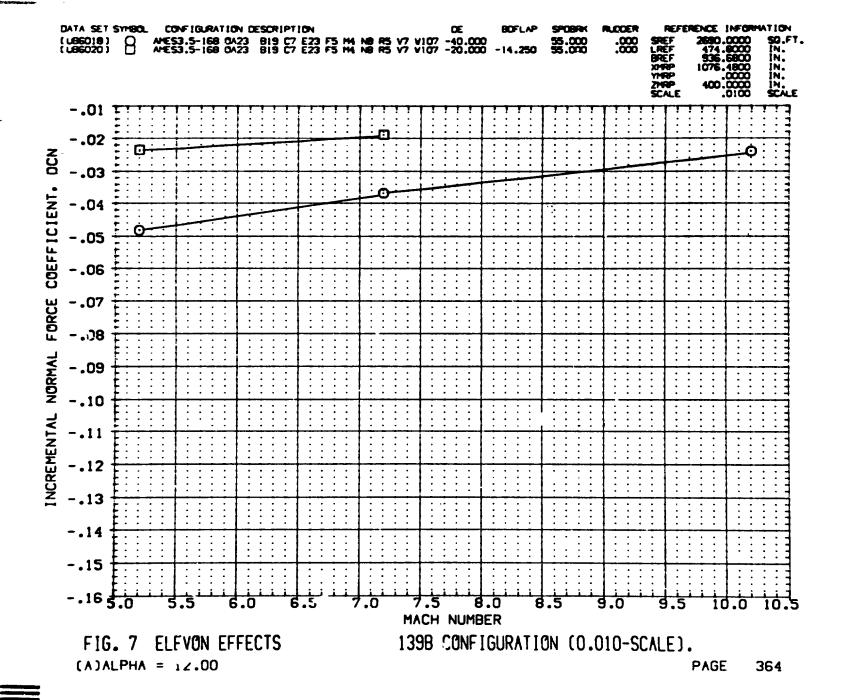


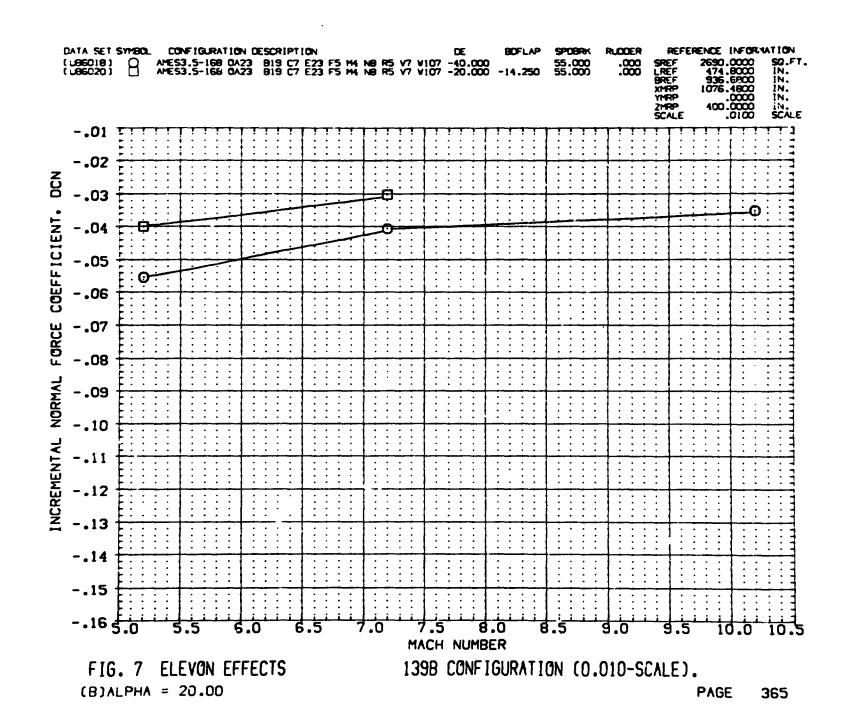


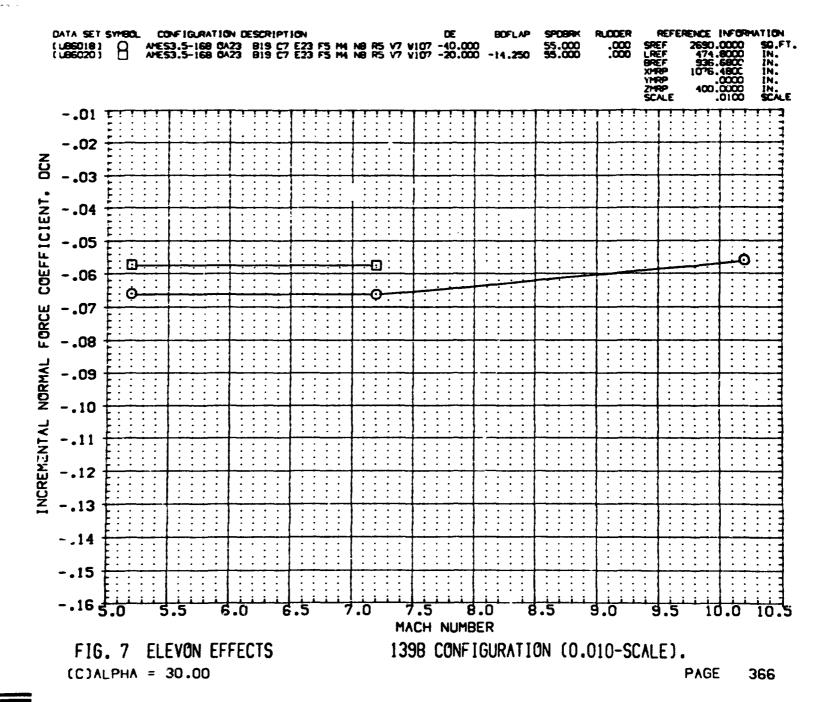


**\$**\$

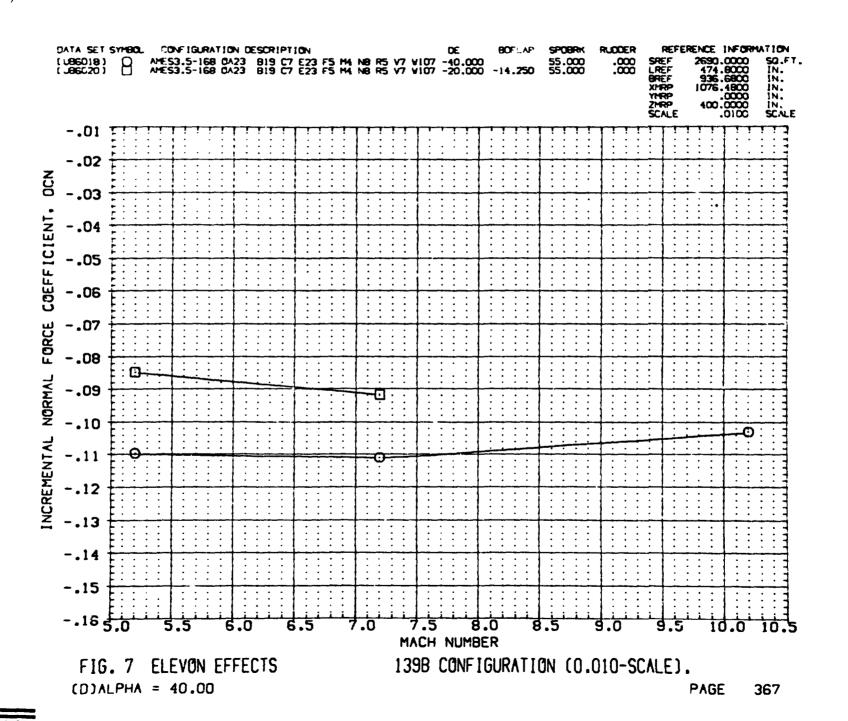


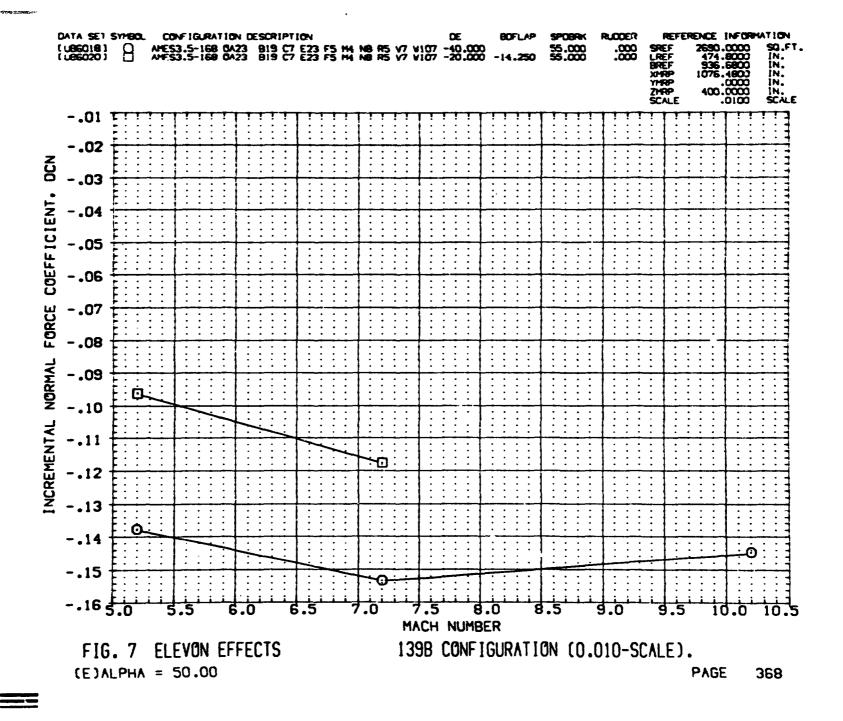


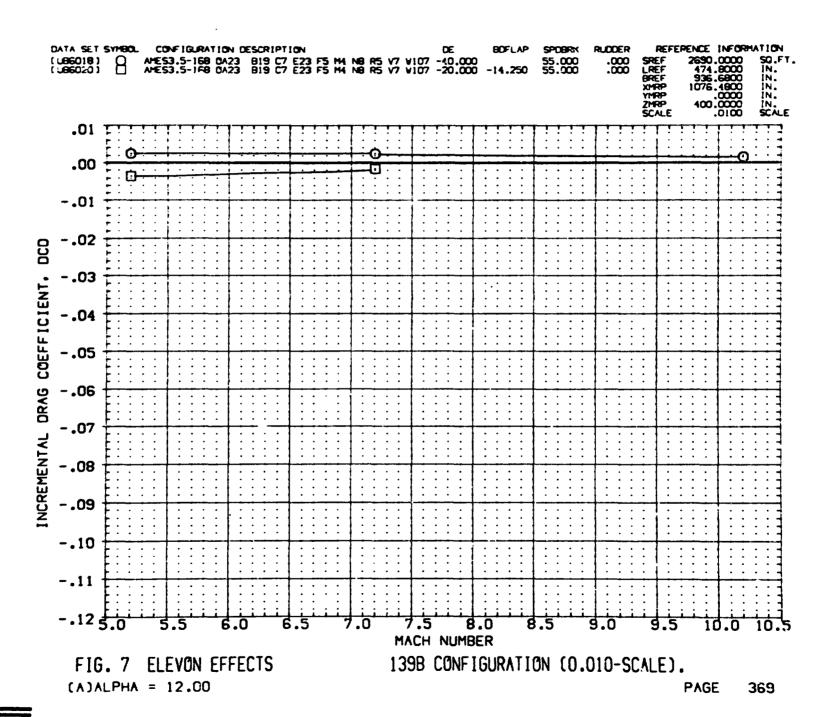


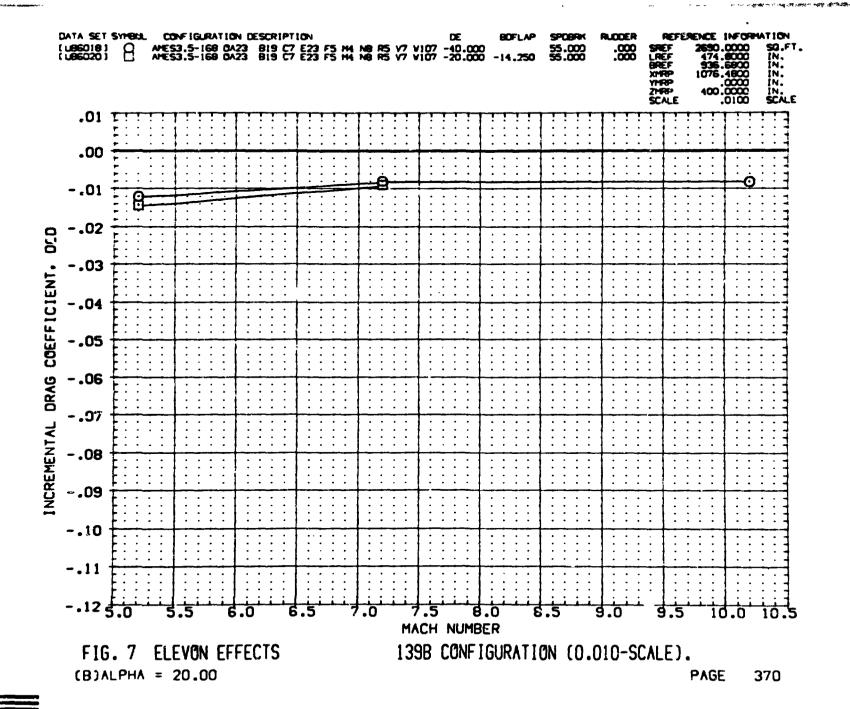


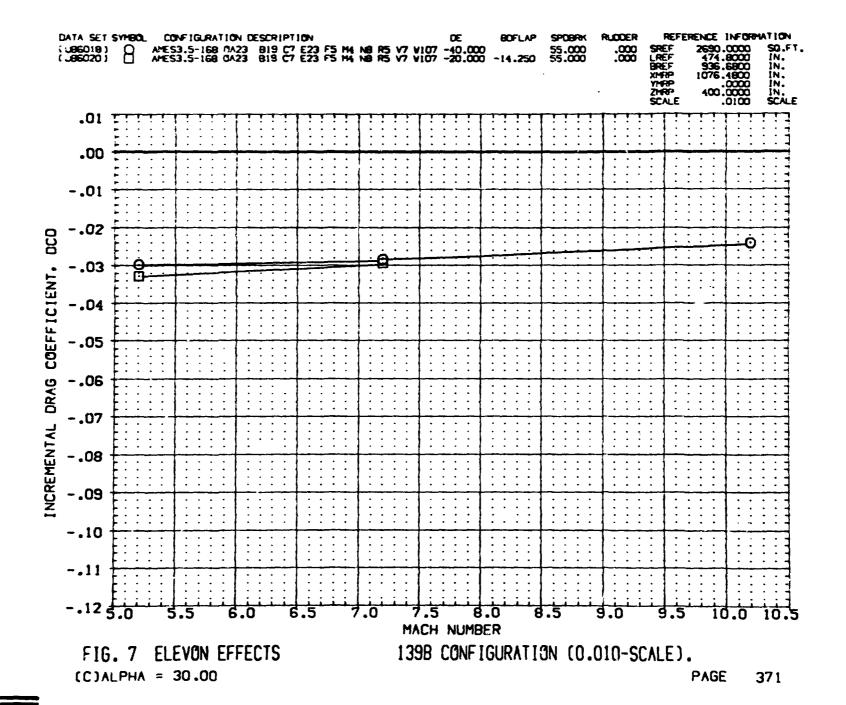
and a second second

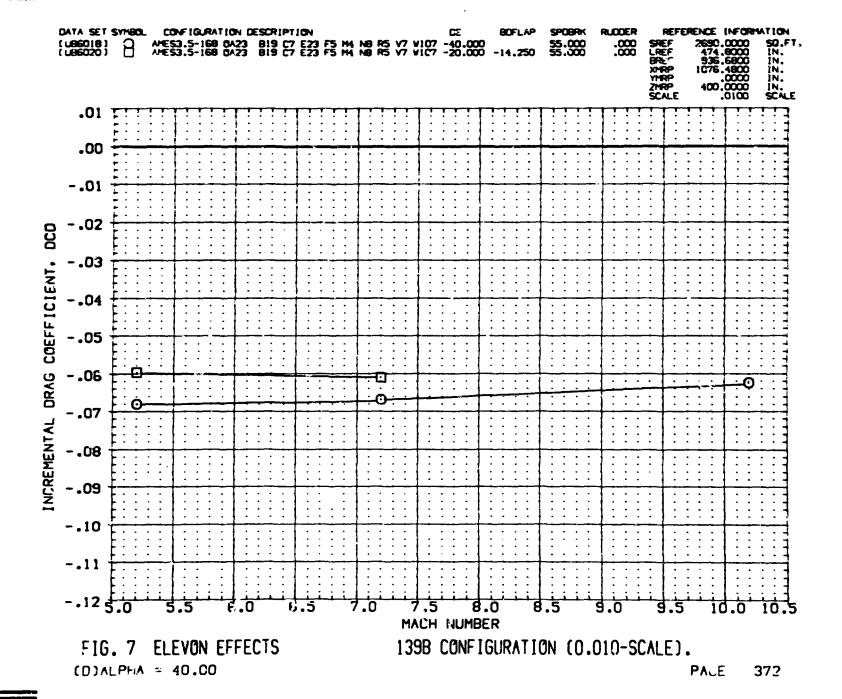


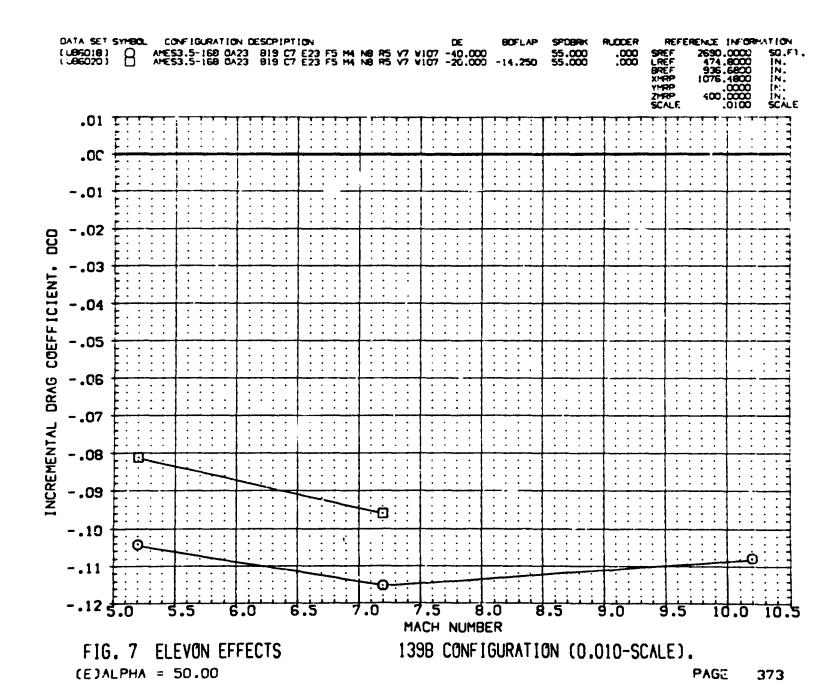


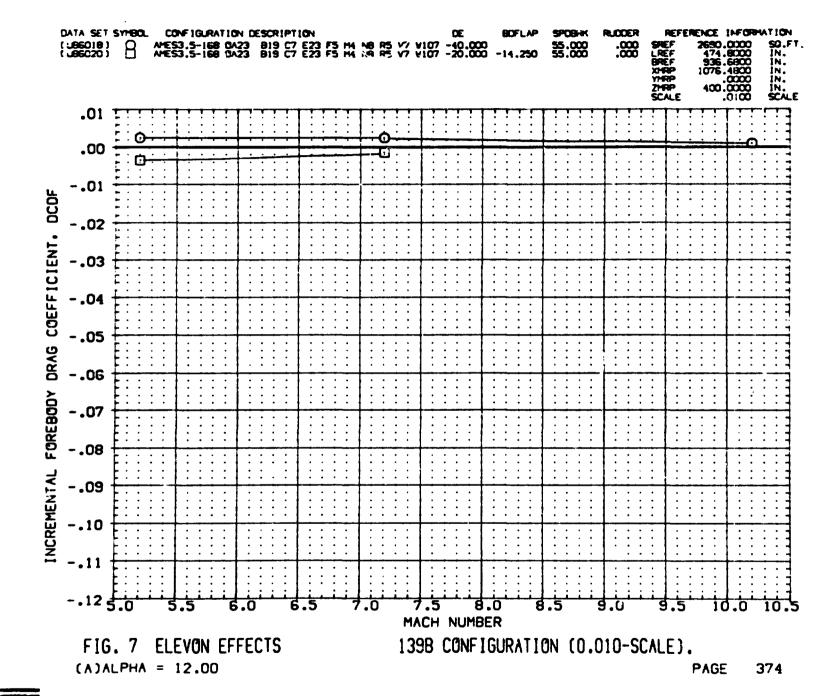




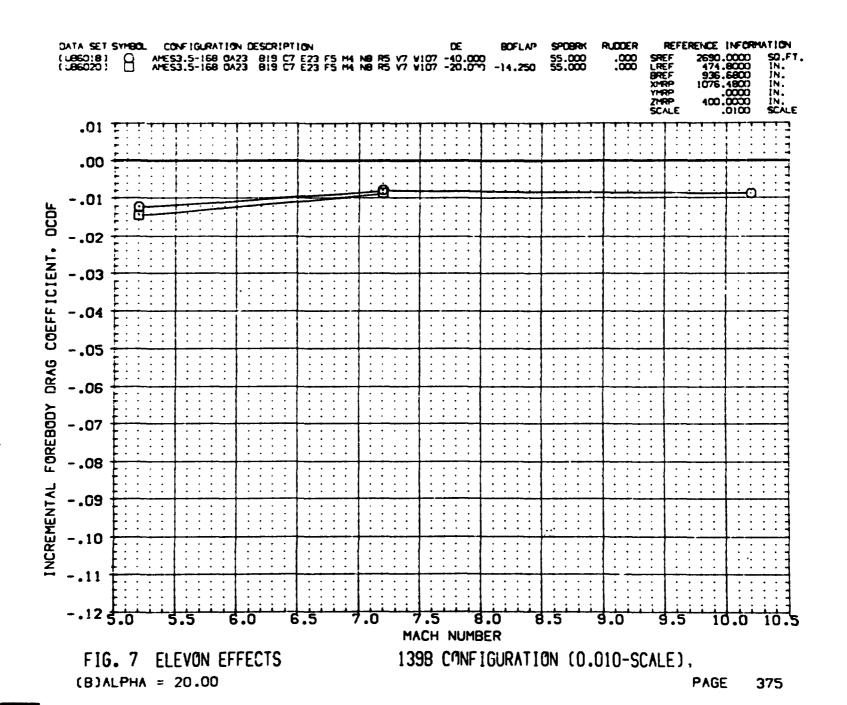












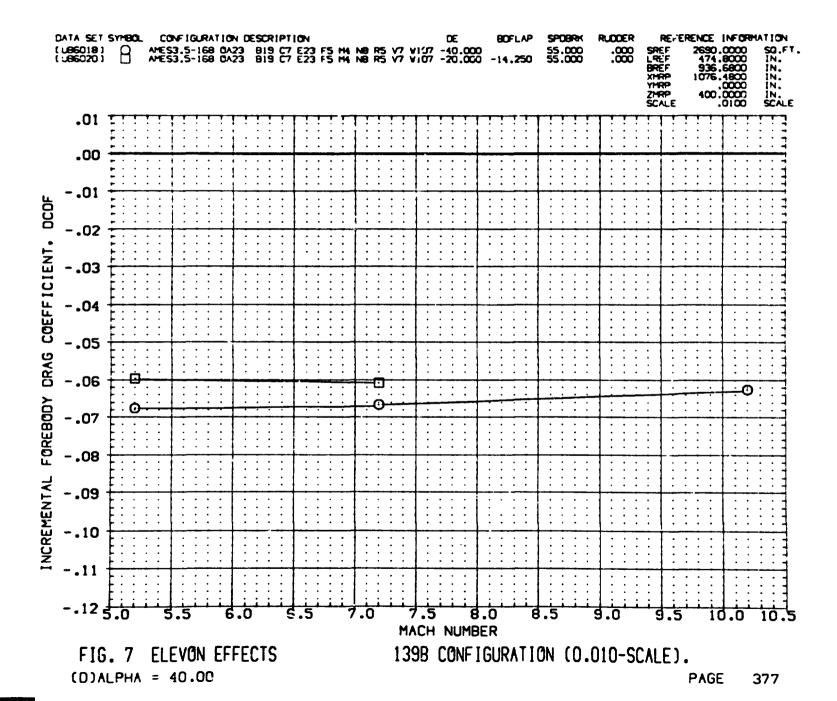
SQ.FT IN. IN. IN. IN. SCALE .000 .01 .00 -.01 FOREBODY DRAG COEFFICIENT. DCDF -.02 -.03 -.05 -.06 -.07 -.08 INCREMENTAL -.09 -.10 -.11 -.12 5.0 MACH NUMBER 139B CONFIGURATION (0.010-SCALE). FIG. 7 ELEVON EFFECTS

PAGE

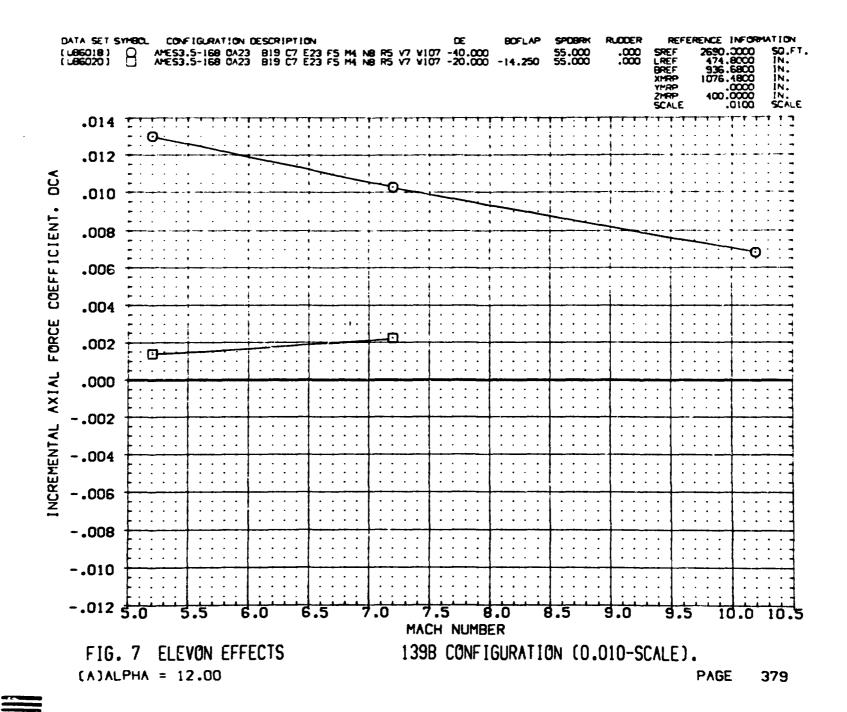
376

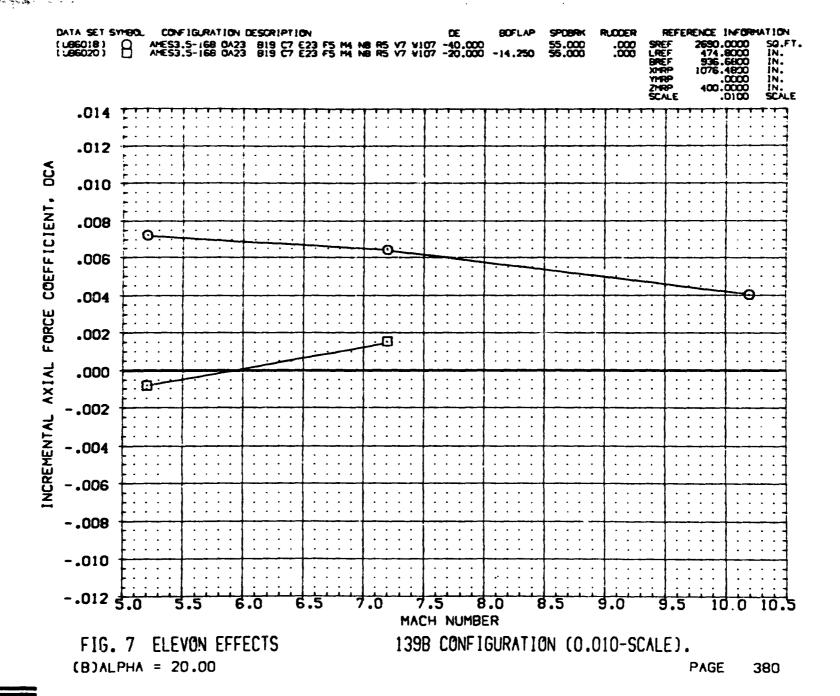
CONFIGURATION DESCRIPTION

(C)ALPHA = 30.00



CONFIGURATION DESCRIPTION RUCCER SREF LREF BREF SHRP YHRP ZMRP SCALE SO.FT. AMES3.5-168 0A23 B19 C7 E23 F5 M4 NB R5 V7 V107 -40.000 AMES3.5-168 0A23 B19 C7 E23 F5 M4 NB R5 V7 V107 -20.000 .000 .01 1 .00 -.01 FOREBODY DRAG COEFFICIENT, OCOF -.02 -.03 -.04 -.05 -.06 -.07 -.08 INCREMENTAL -.09 -.10 10.0 MACH NUMBER FIG. 7 ELEVON EFFECTS 139B CONFIGURATION (0.010-SCALE). (E)ALPHA = 50.00PAGE 378





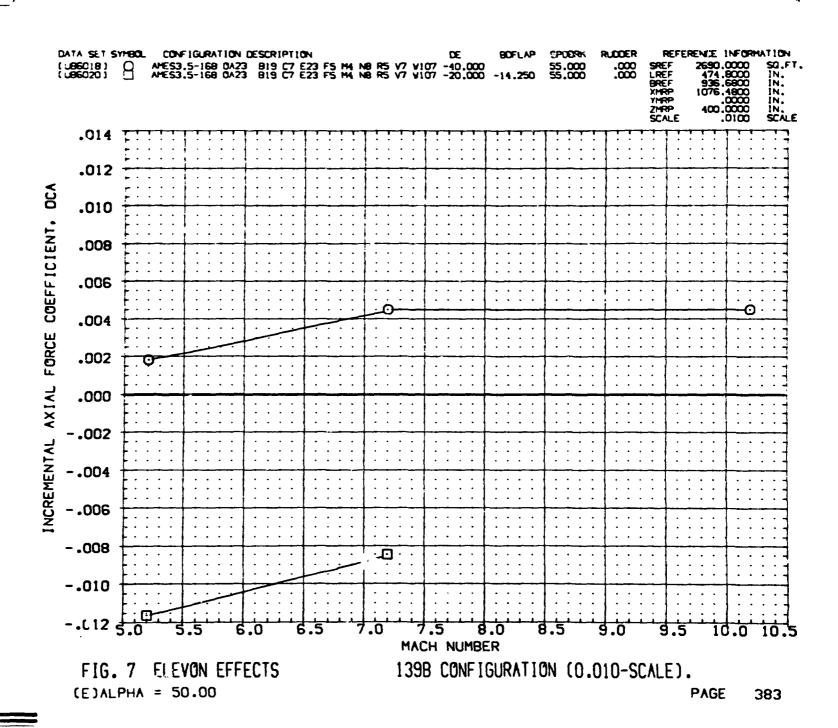
CONFIGURATION DESCRIPTION RUCCER REFERENCE INFORMATION DATA SET SYMBOL SPOBRK SREF LREF BREF XMRP YMRP ZMRP SCALE SO.FT. IN. IN. IN. IN. AMES3.5-168 0A23 B19 C7 E23 F5 M4 AMES3.5-168 0A23 B19 C7 E23 F5 M4 .000 .014 .012 INCREMENTAL AXIAL FORCE COEFFICIENT. DCA .010 .008 .006 .004 .002 .000 -.002 -.004 -.006 -.008 -.010 8.0 9.0 MACH NUMBER 139B CONFIGURATION (0.010-SCALE). FIG. 7 ELEVON EFFECTS

PAGE

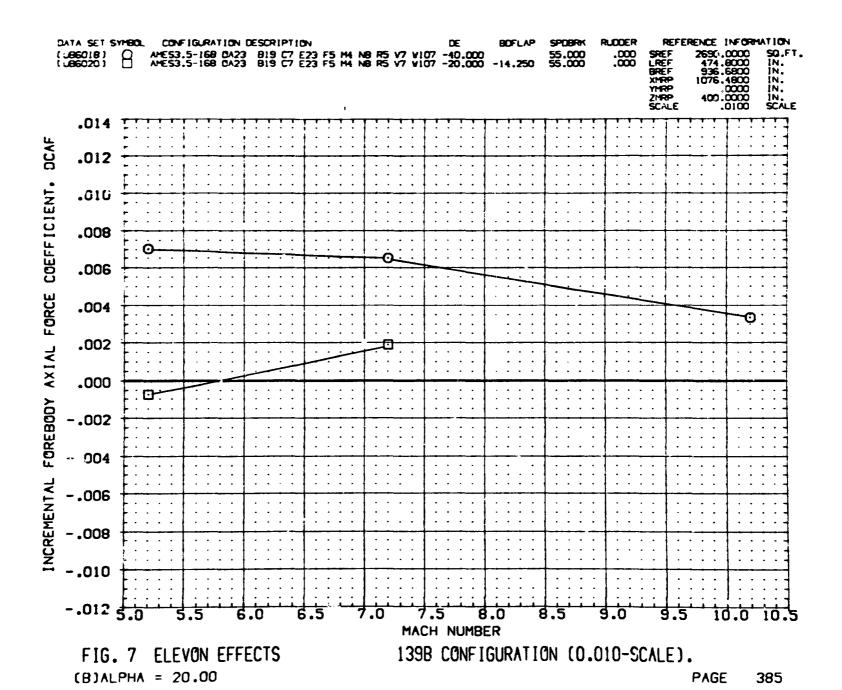
381

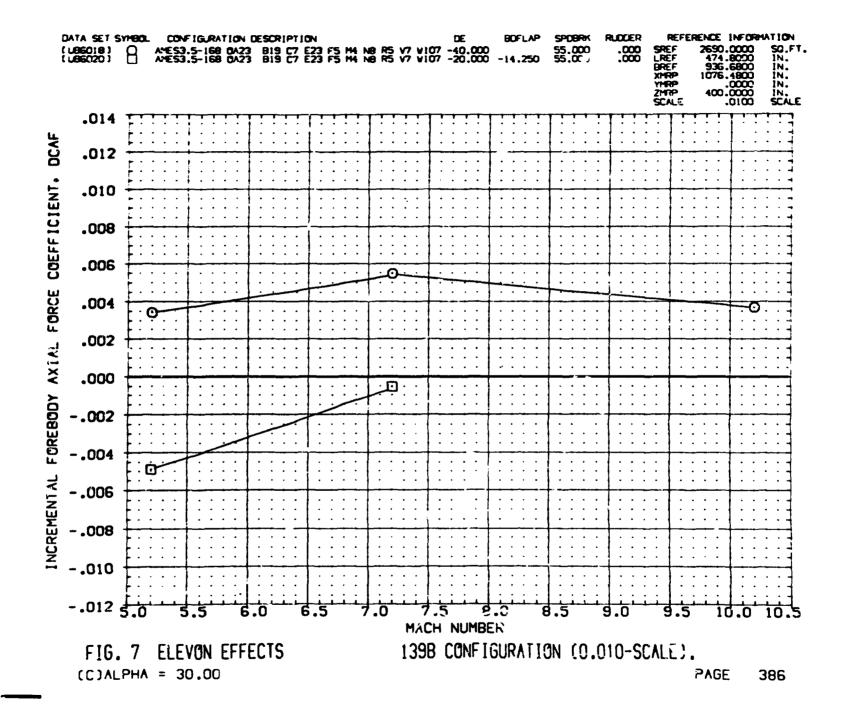
(C)ALPHA = 30.00

CONFIGURATION DESCRIPTION RUDDER . 880: IN. IN. IN. IN. SCALE .014 .012 INCREMENTAL AXIAL FORCE COEFFICIENI. DCA .010 .008 .006 .004 .002 .000 -.002 -.004 -.006 -.008 -.010 -.0125.0MACH NUMBER FIG. 7 ELEVON EFFECTS 139B CONFIGURATION (0.010-SCALE). (D)ALPHA = 40.00PAGE 382

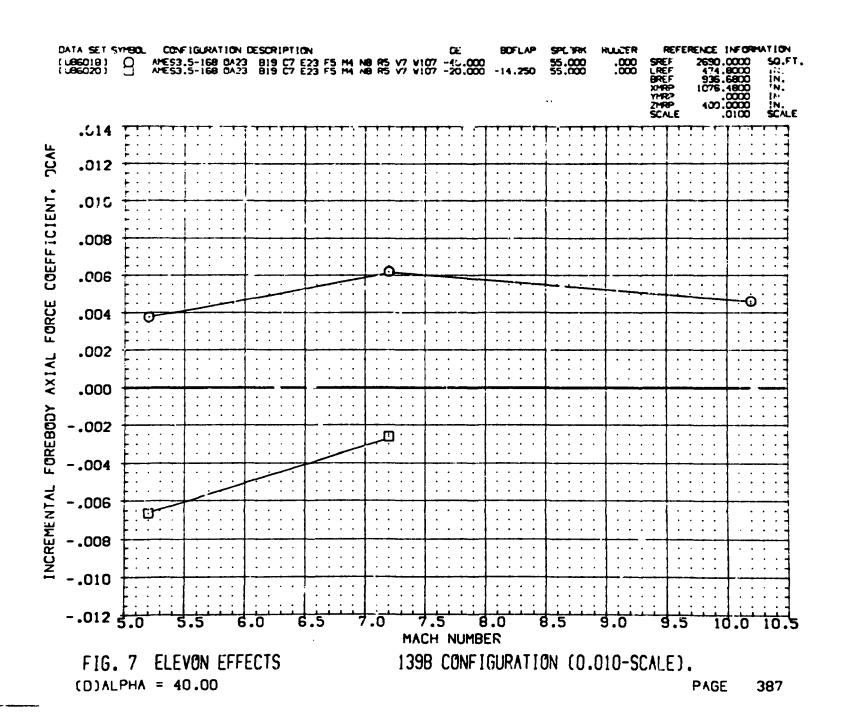


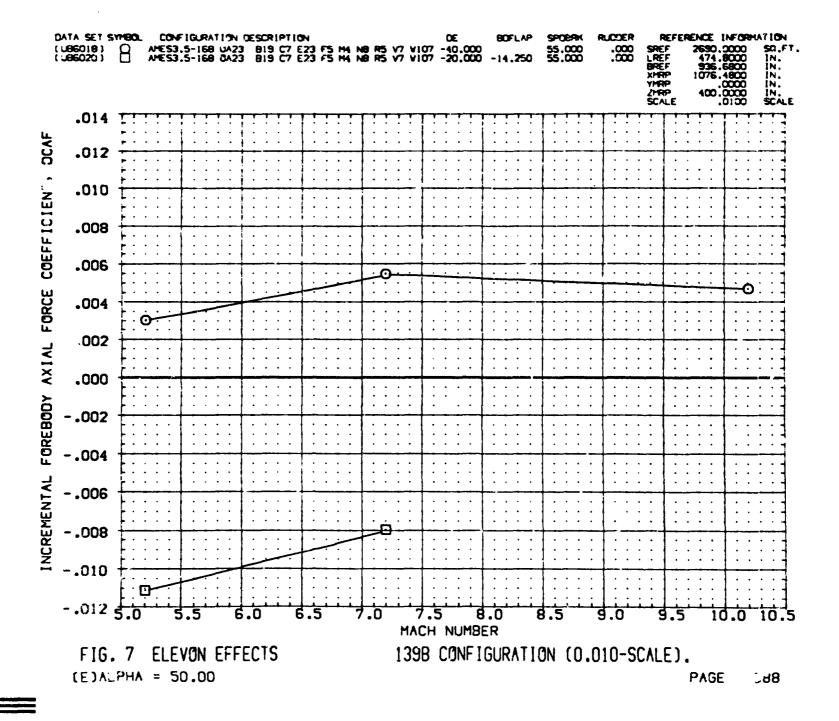
RUCCER .000 .000 CONFIGURATION DESCRIPTION IN. IN. IN. IN. SCALE .014 T DCAF .012 FOREBODY AXIAL FORCE COEFFICIENT. -010 .008 .006 .004 .002 .000 -.002 -.004 INCREMENTAL -.006 -.008 -.010 -.012 5.0 MACH NUMBER FIG. 7 ELEVON EFFECTS 139B CONFIGURATION (0.010-SCALE). (A)ALPHA = 12.00PAGE 384

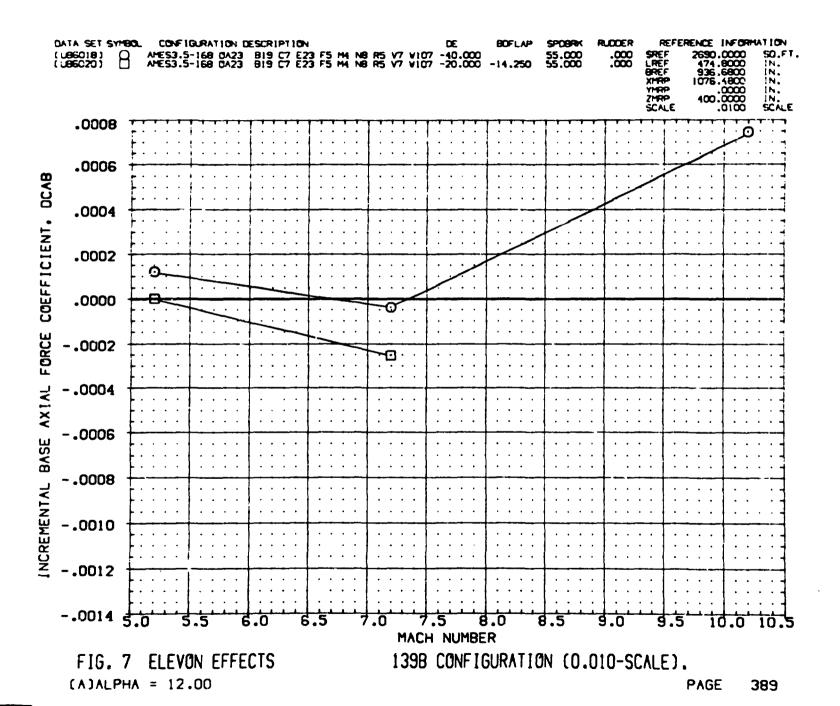


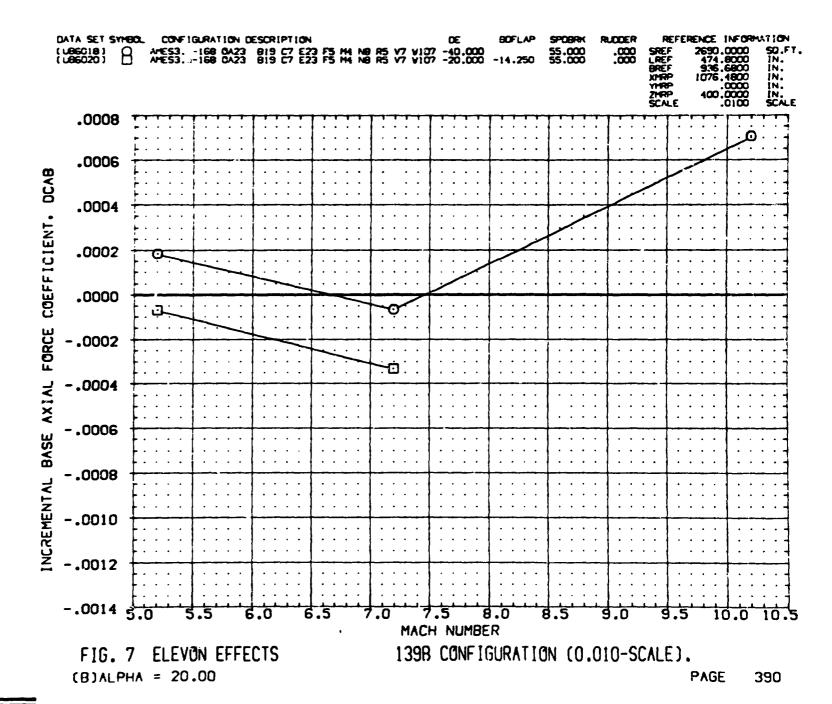


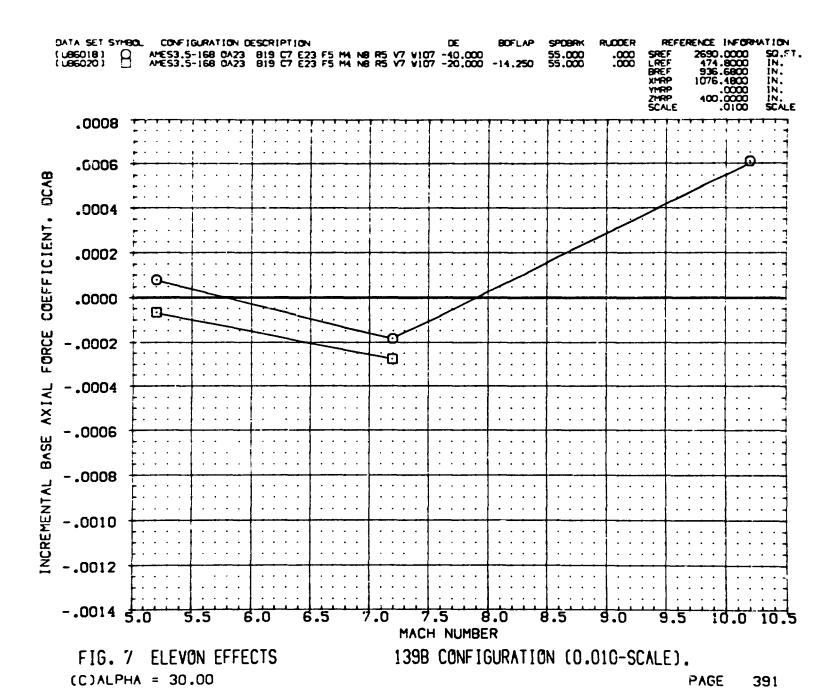


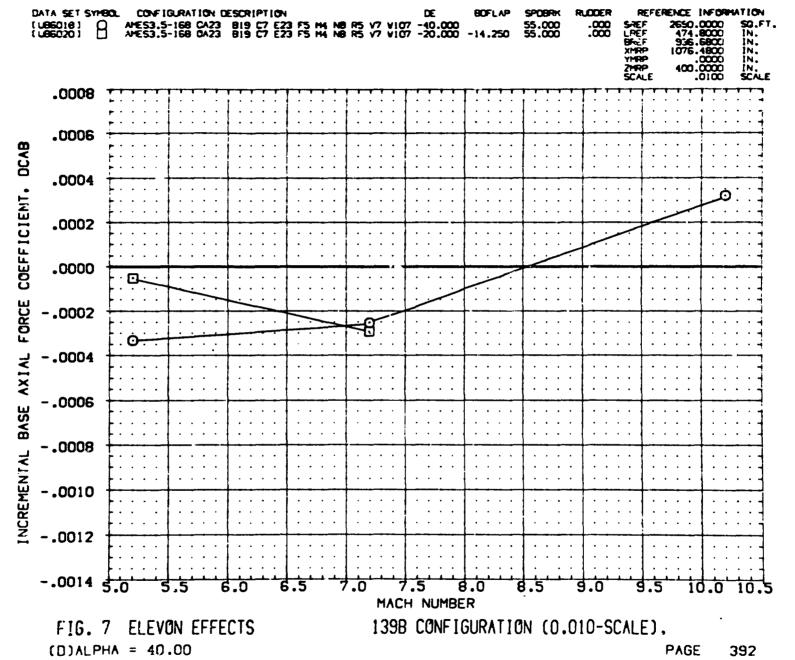




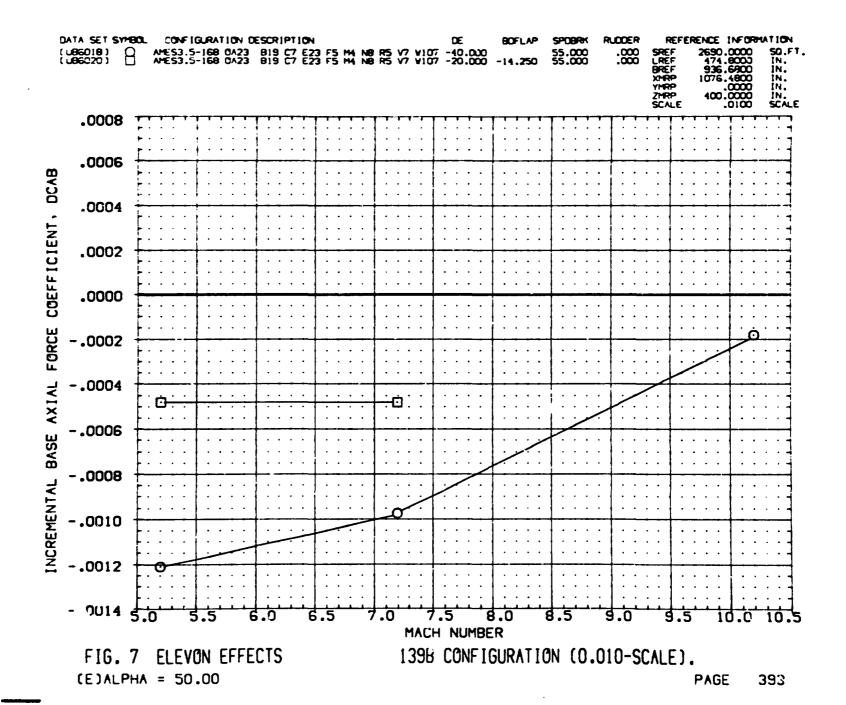


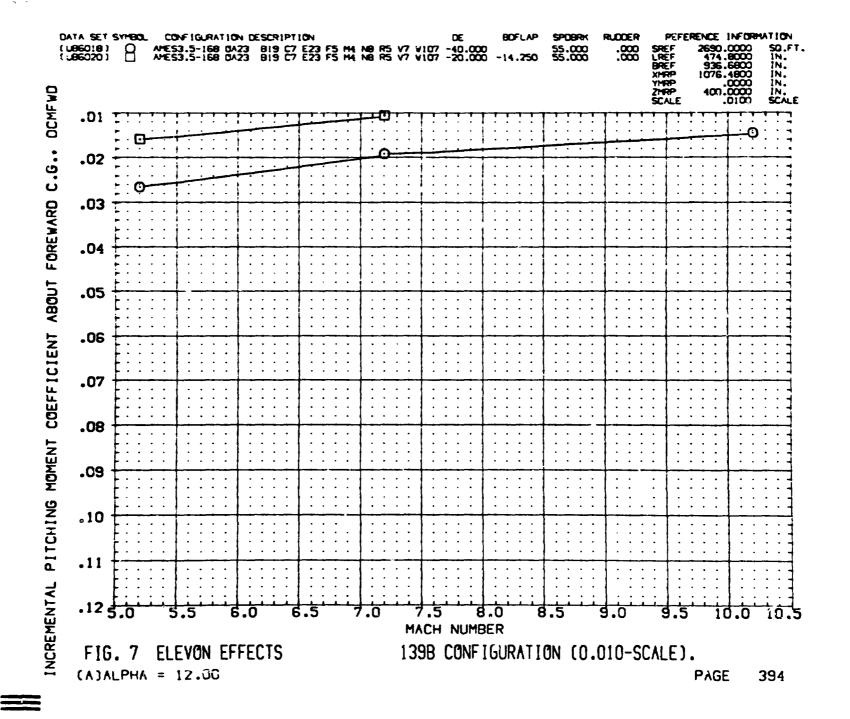


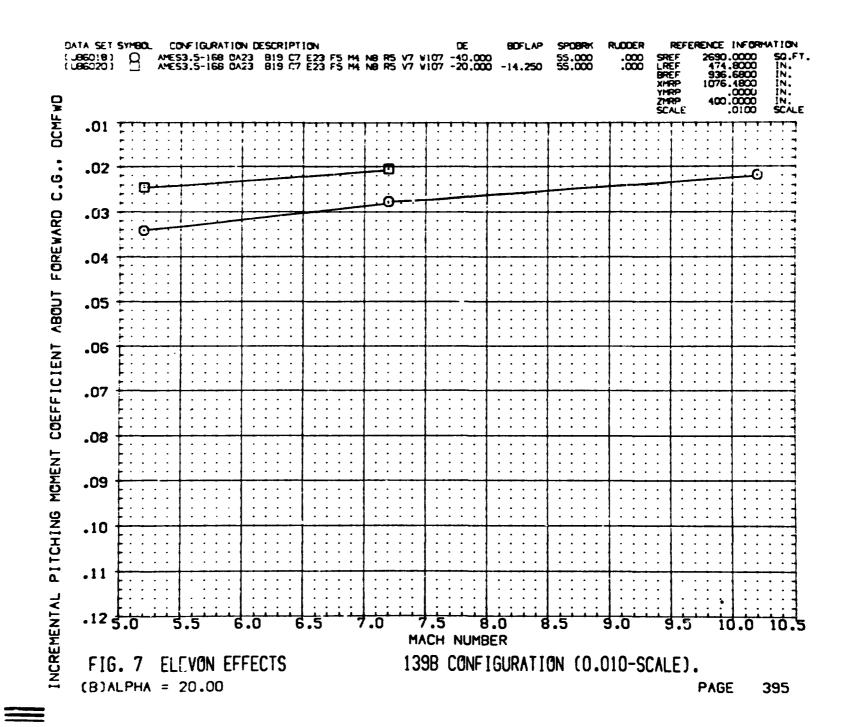


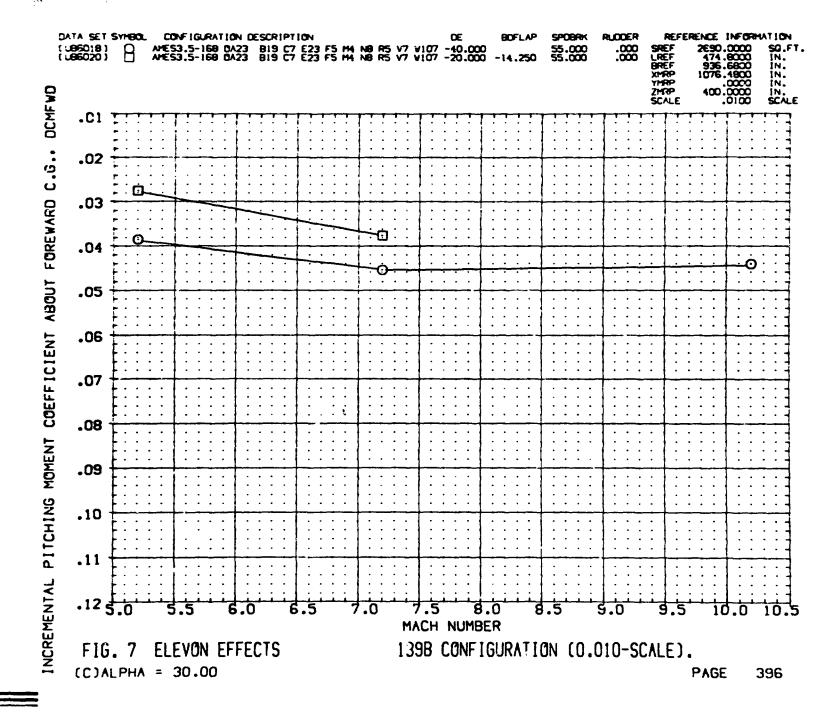


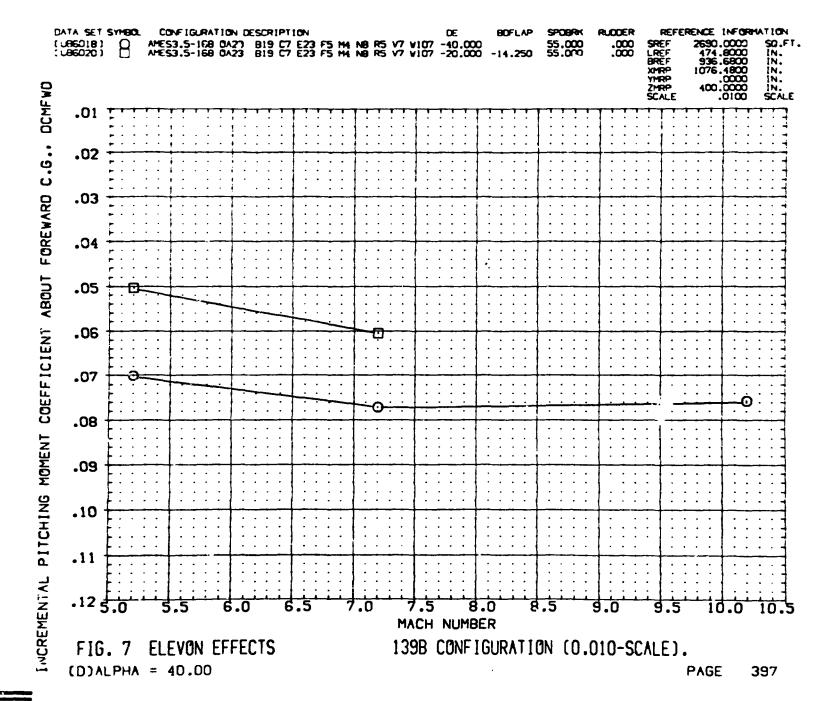
- 15.

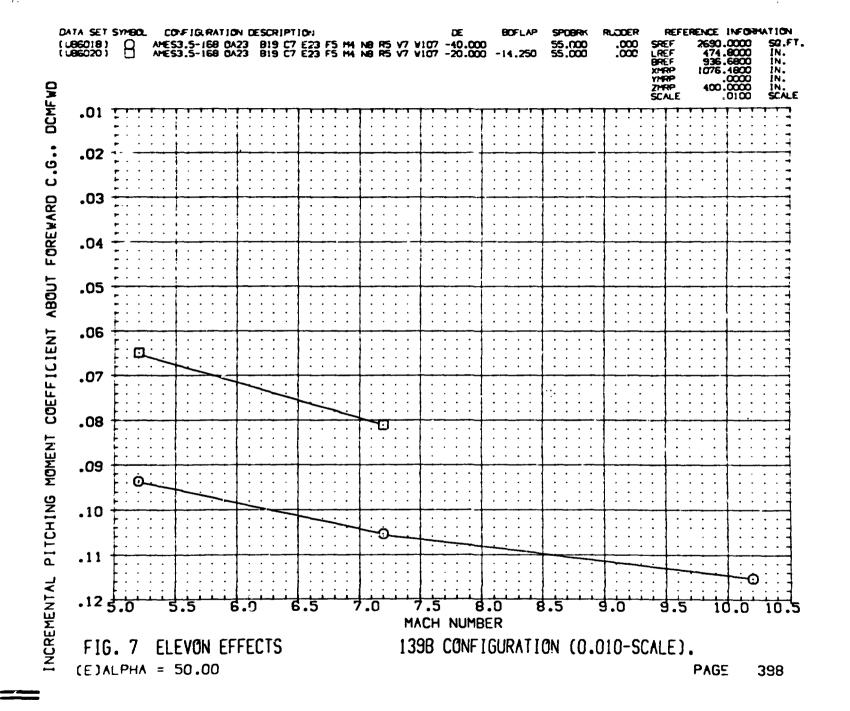




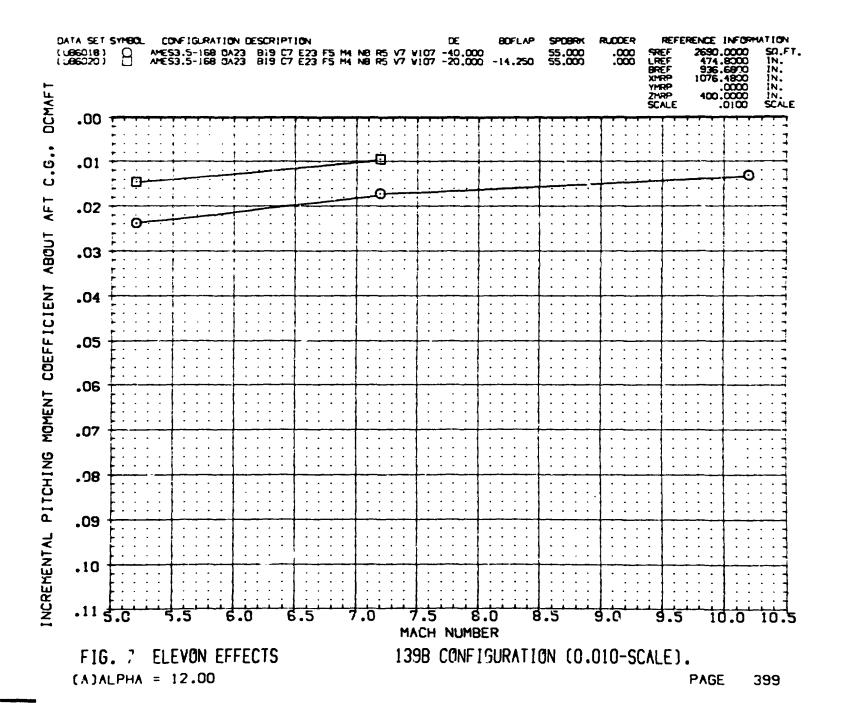


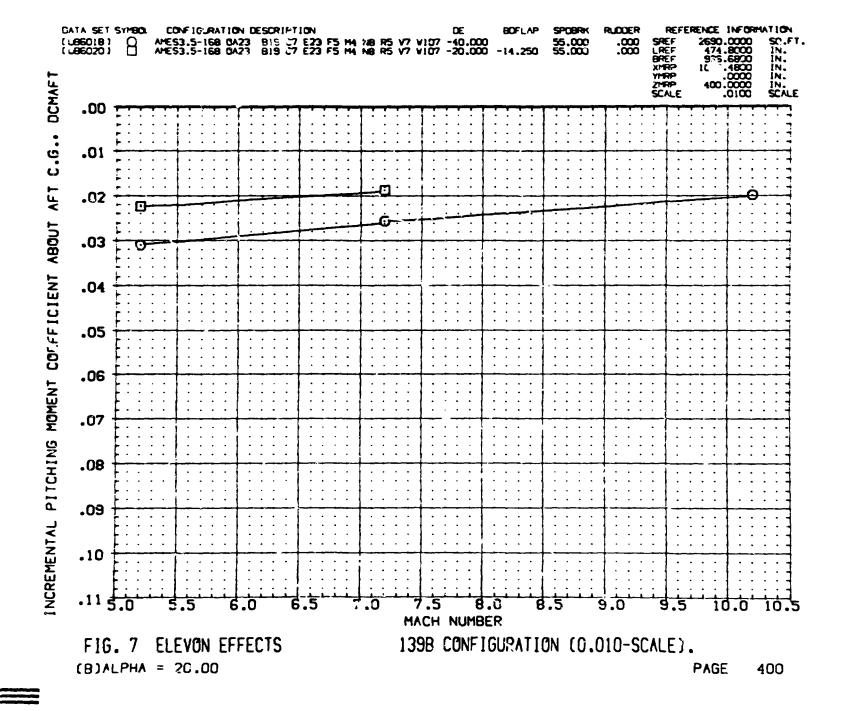


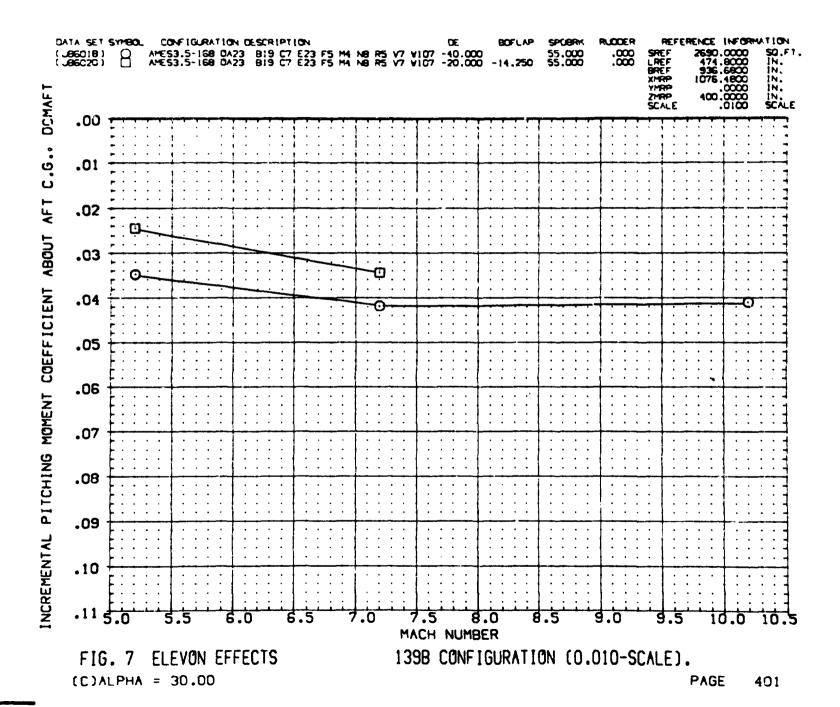


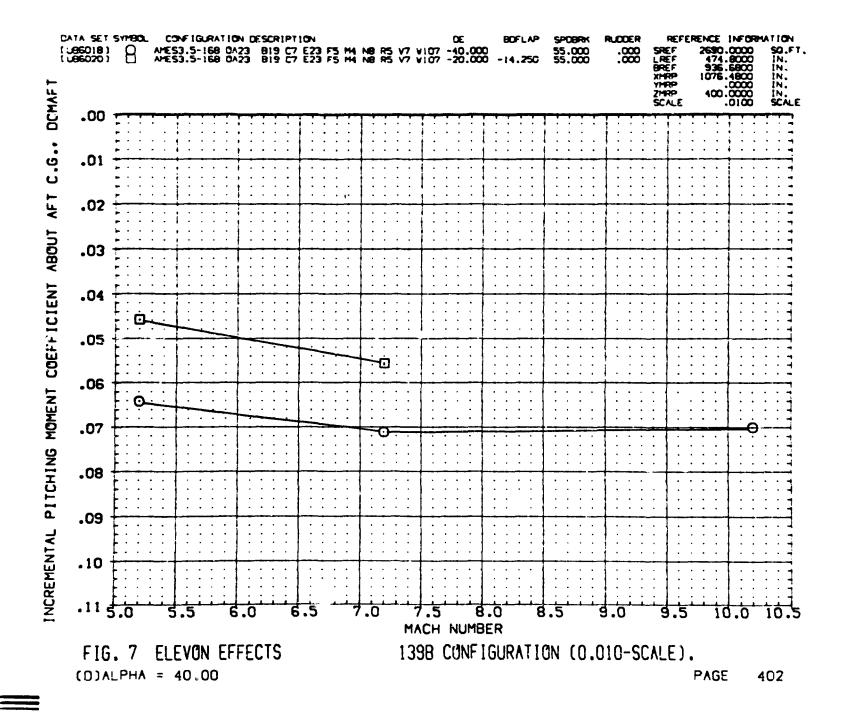


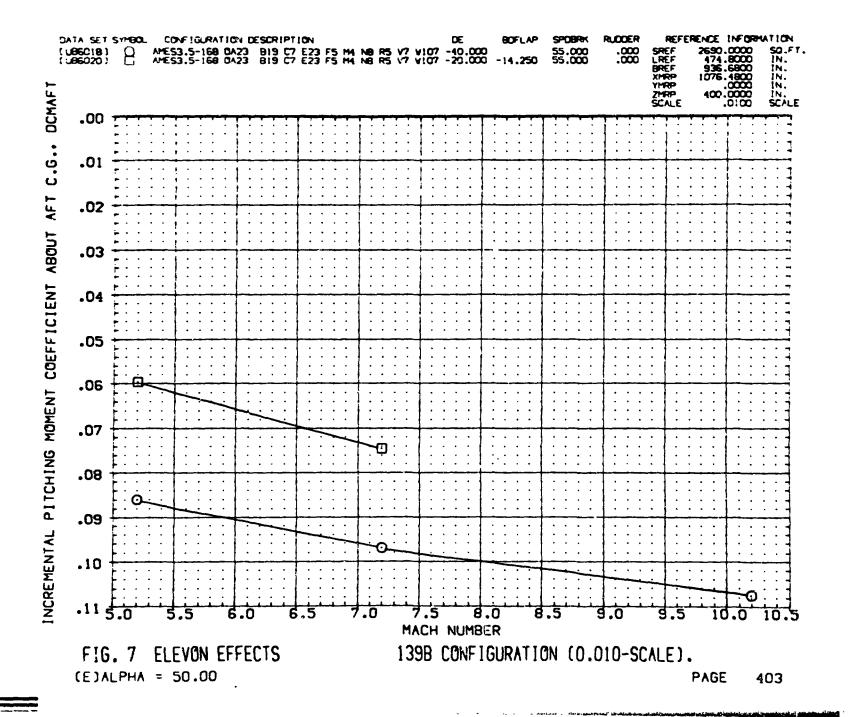
.

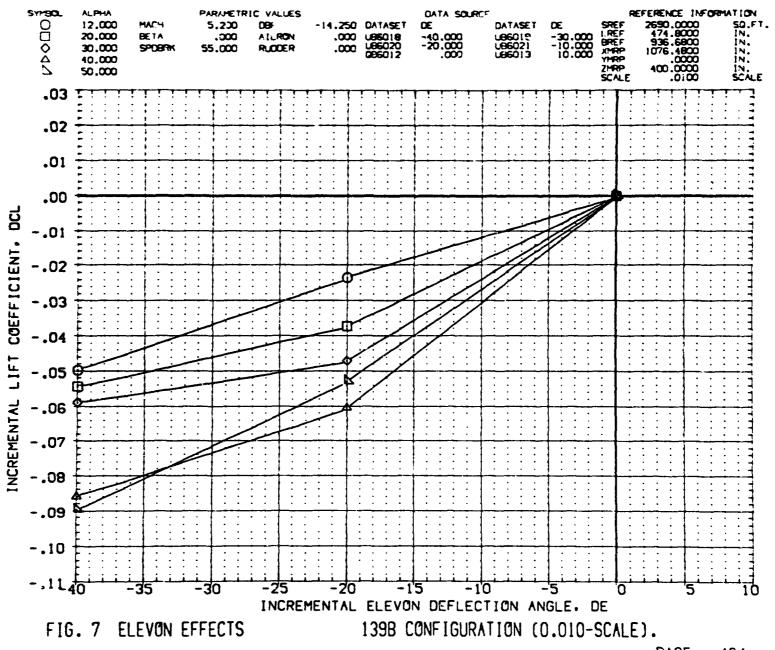


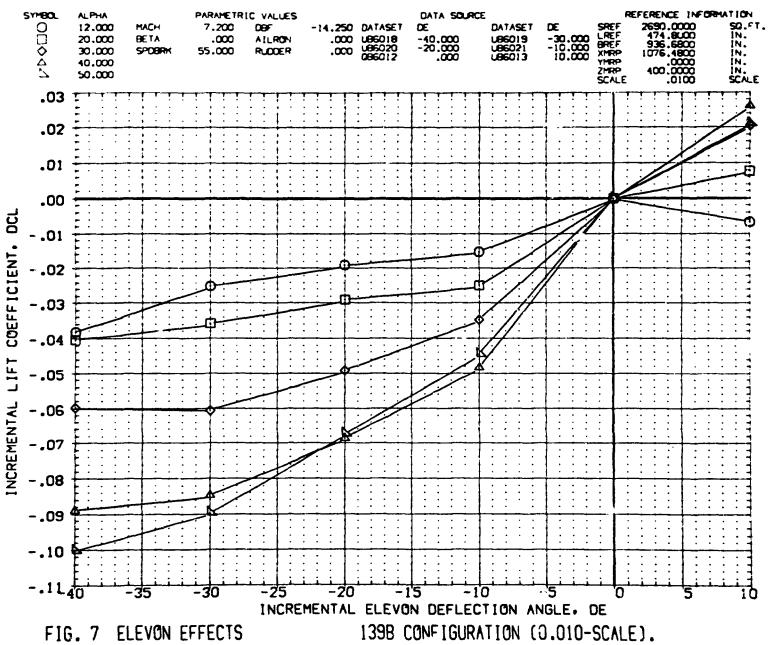


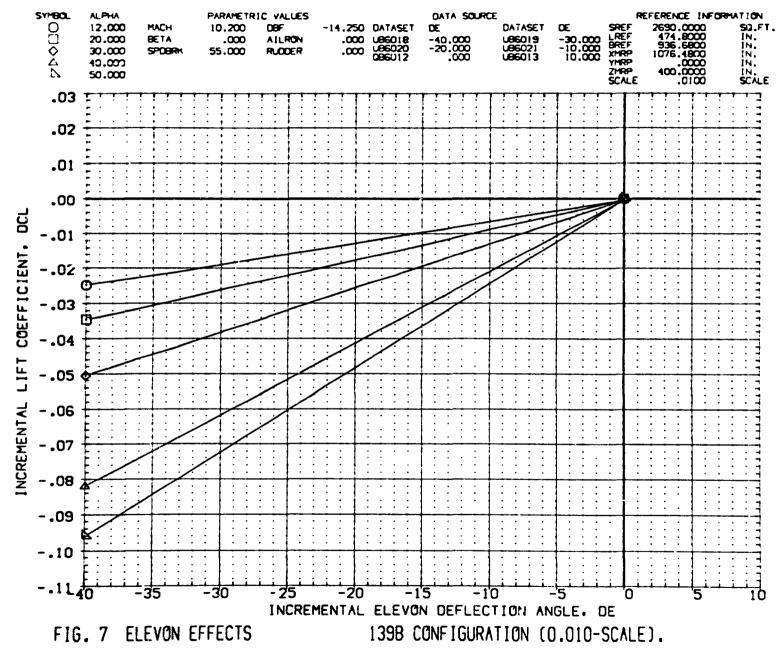






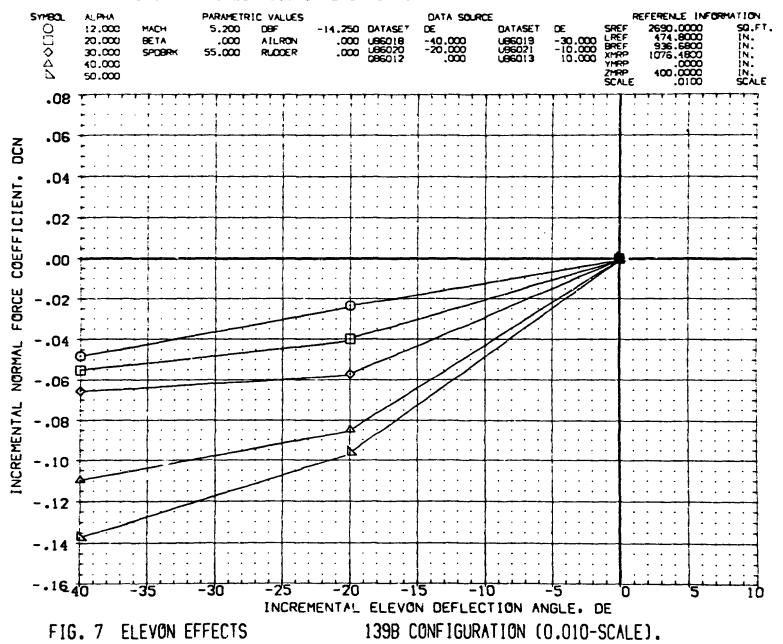


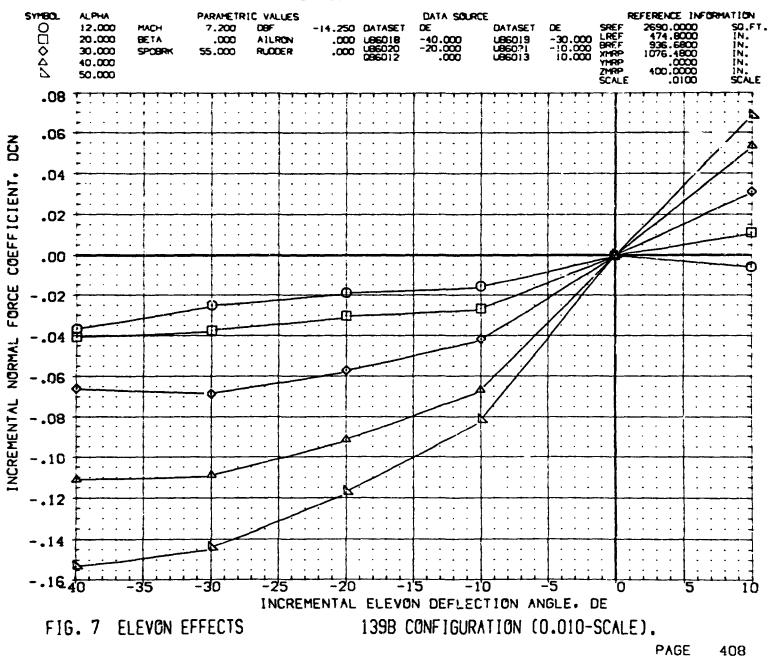


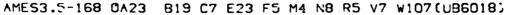


PAGE

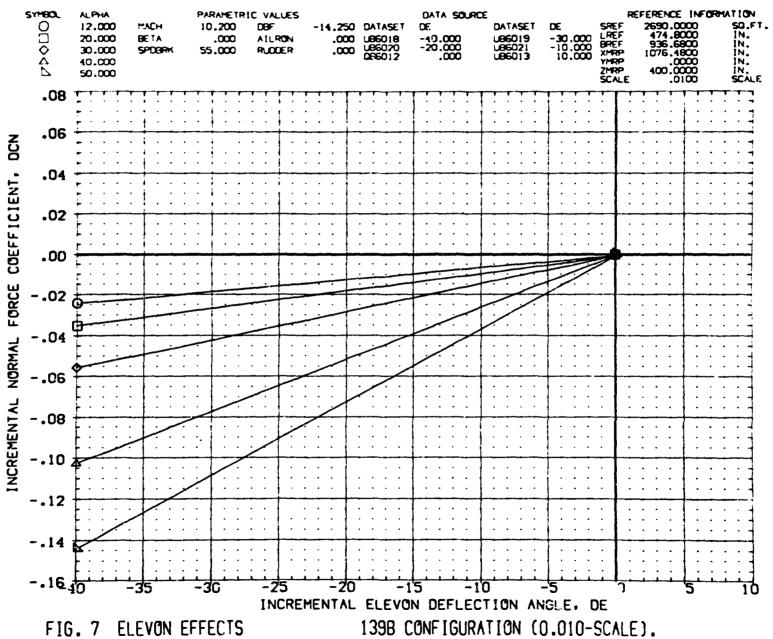
406

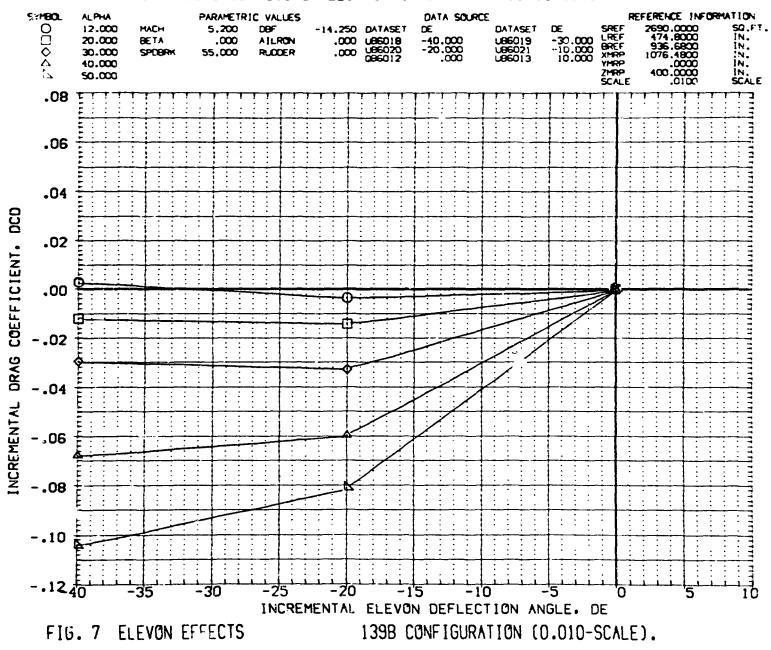






 $\equiv$ 





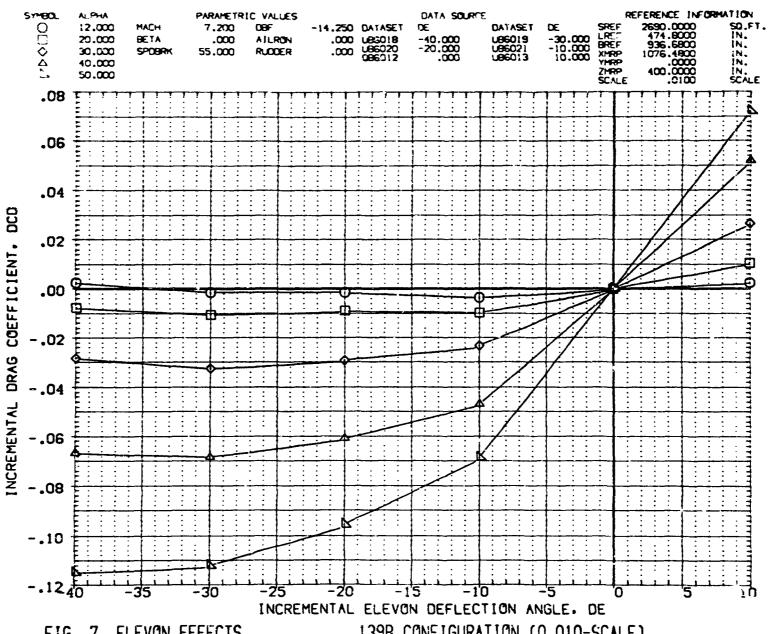
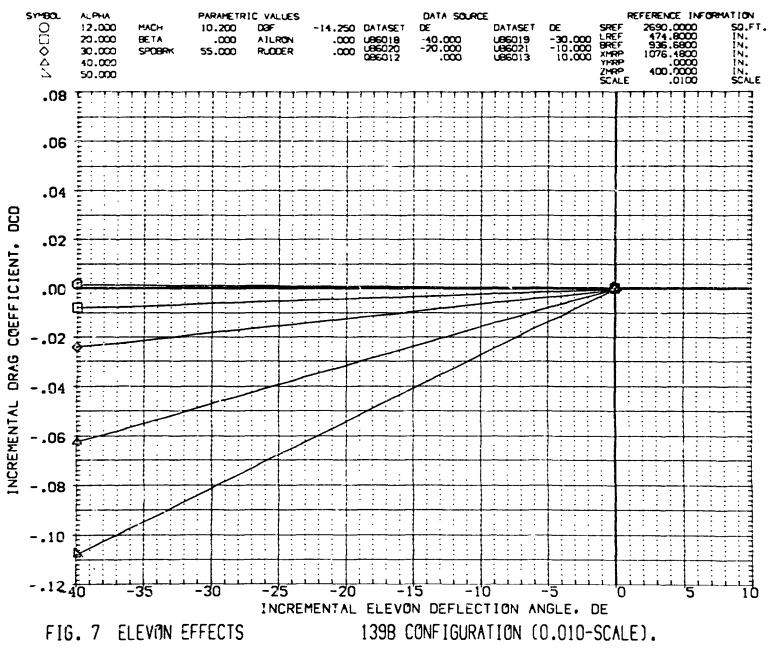


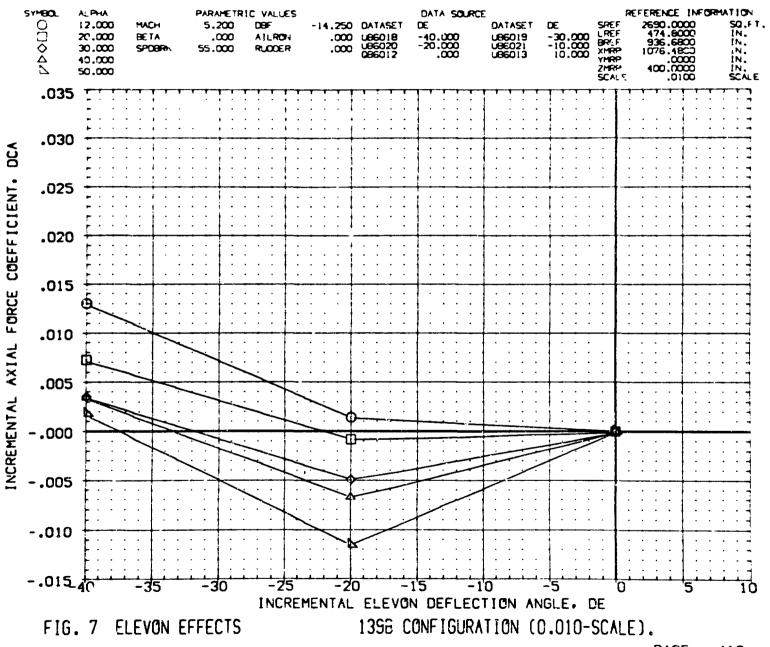
FIG. 7 ELEVON EFFECTS

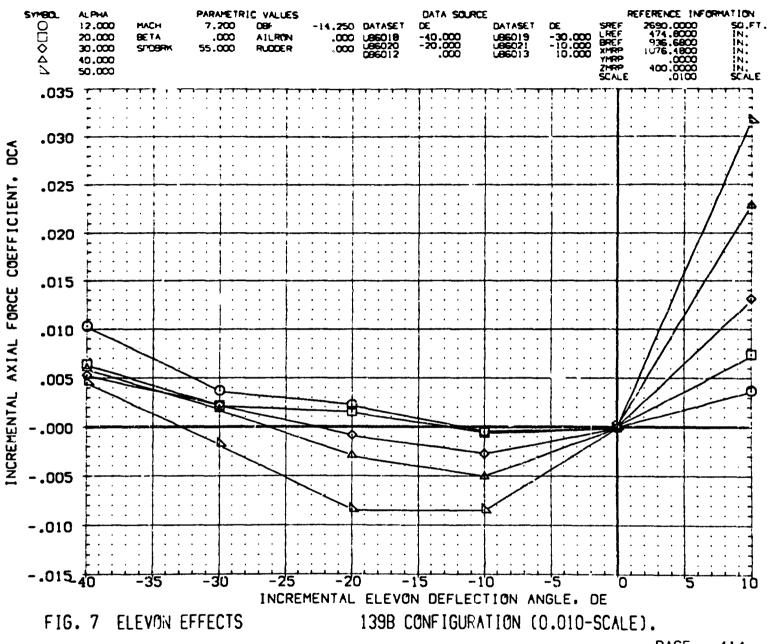
139B CONFIGURATION (0.010-SCALE).

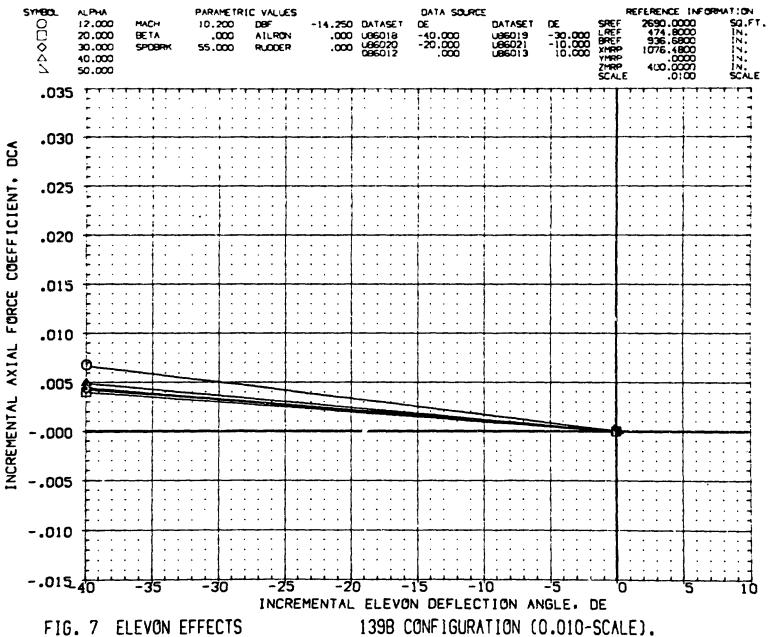
346"











AMES3.5-168 0A23 B19 C7 E23 F5 M4 N8 R5 V7 W107(U86018)

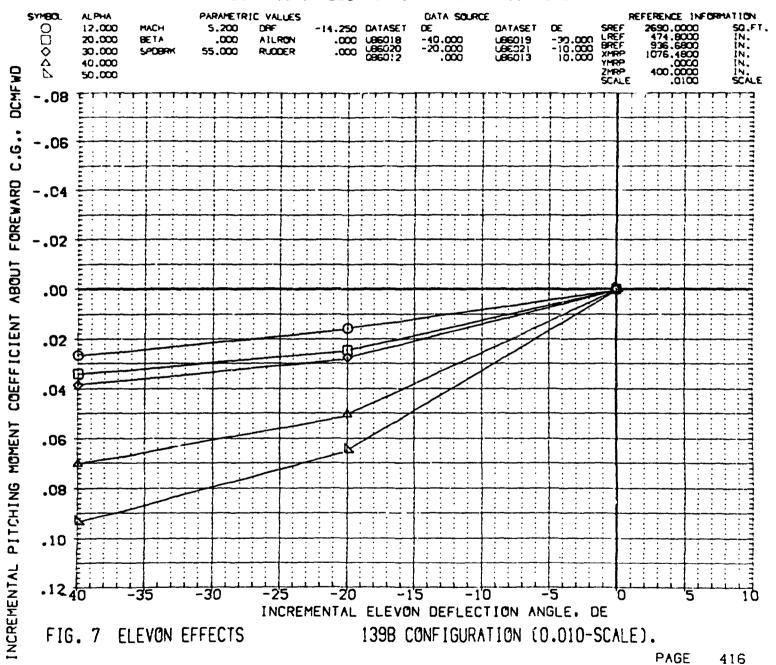
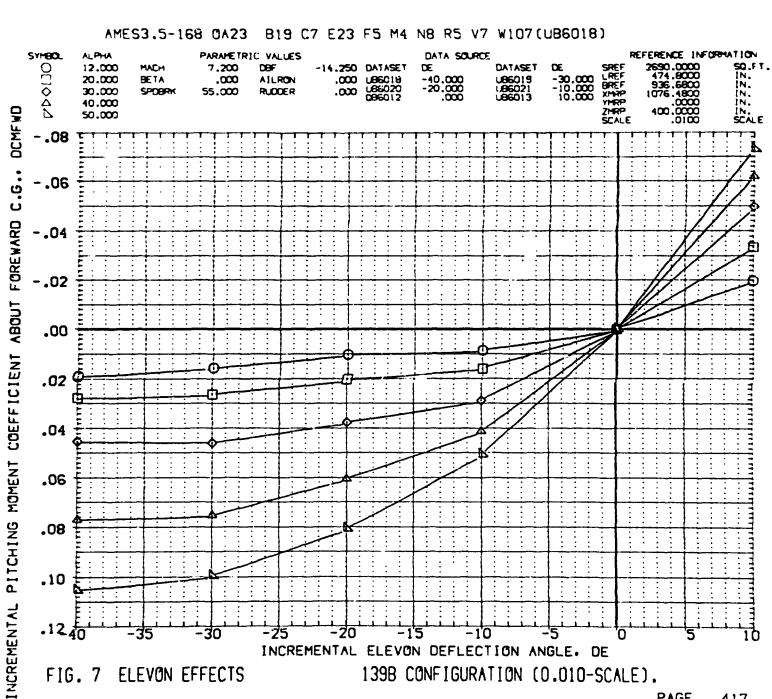
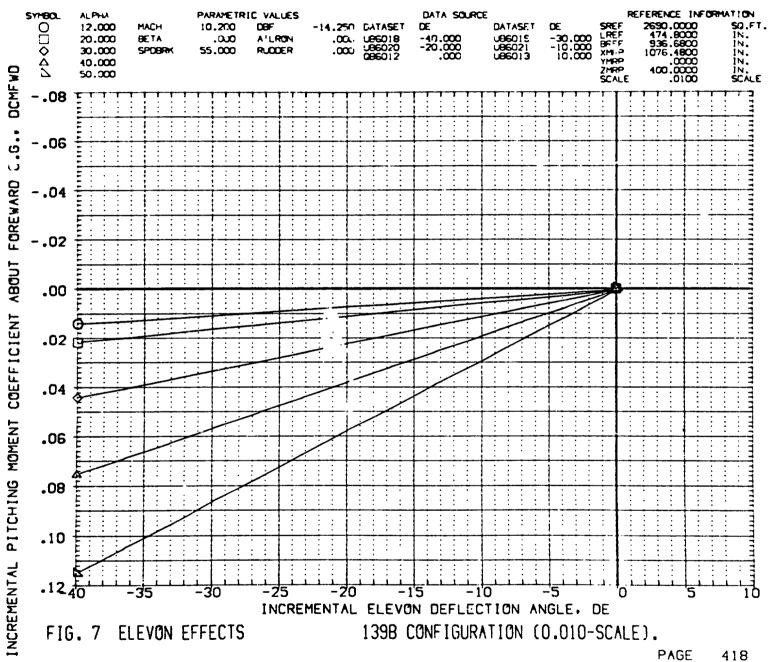




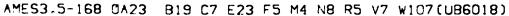
FIG. 7

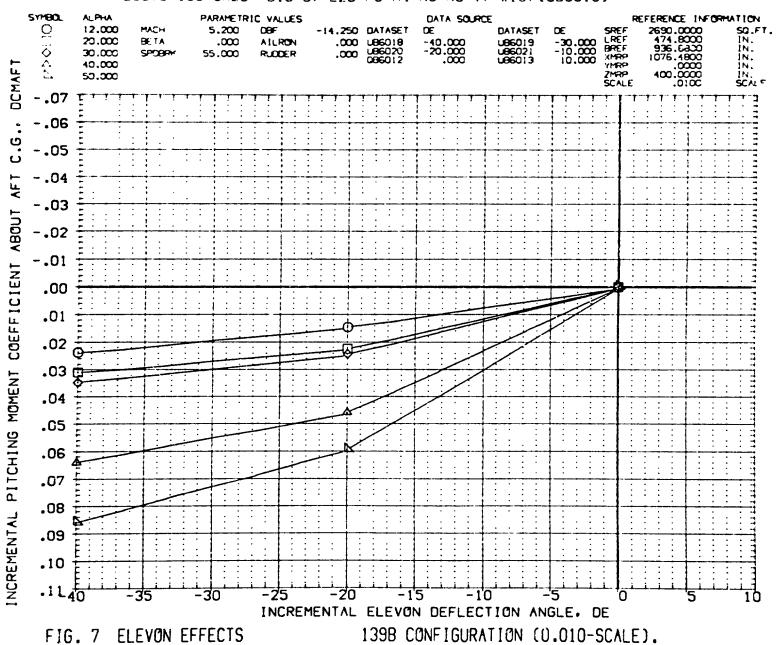




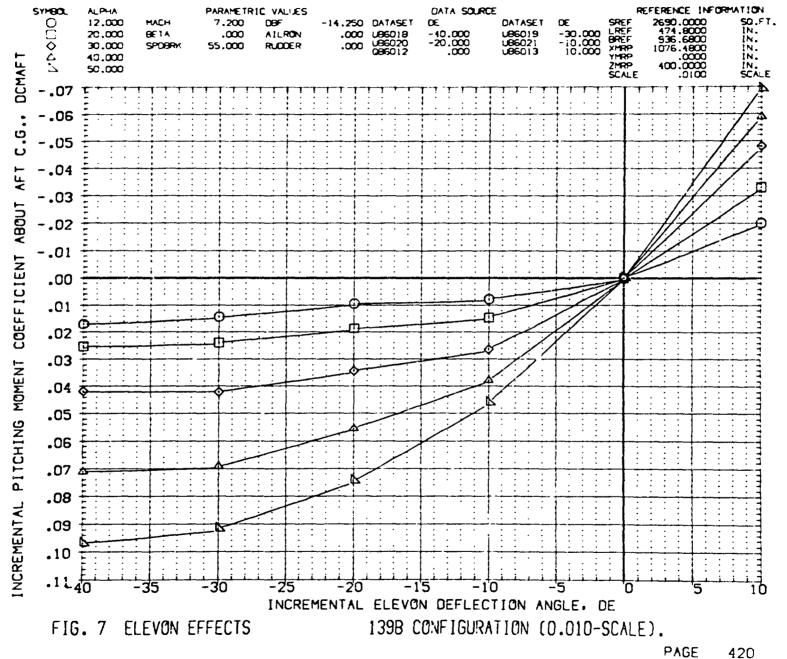
419



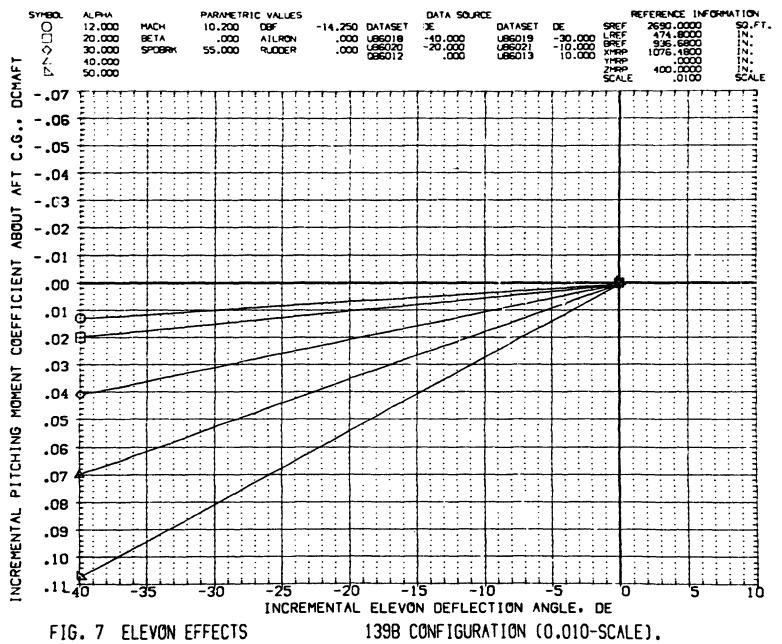




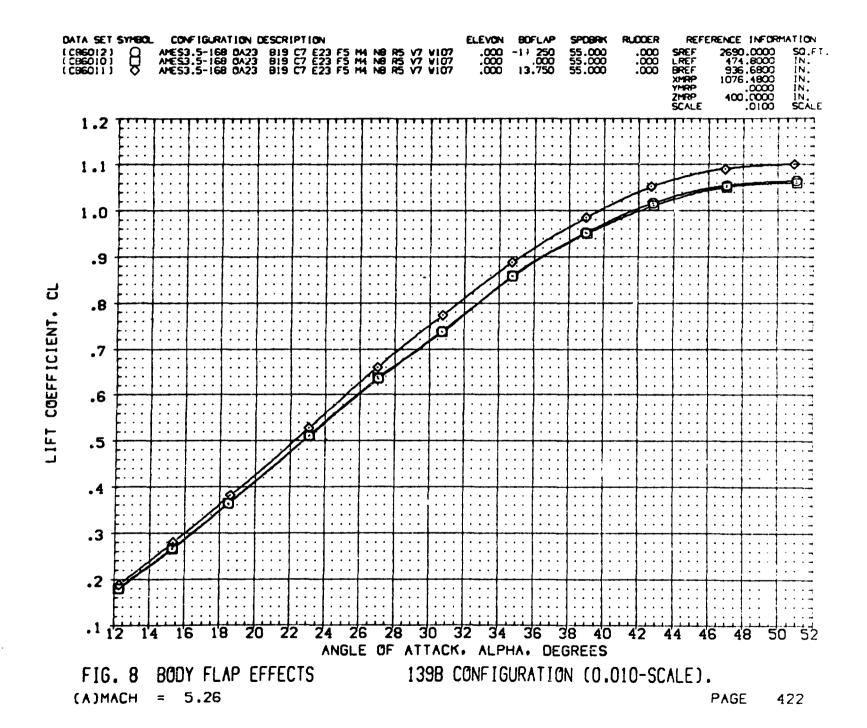
## AMES3.5-168 0A23 B19 C7 E23 F5 M4 N8 R5 V7 W107(UB6018)



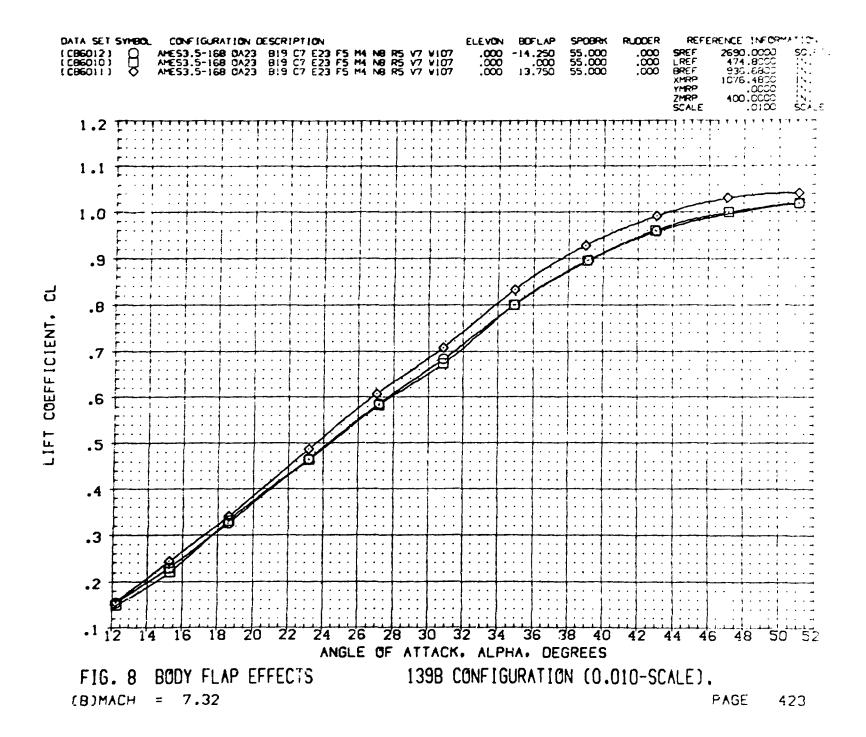


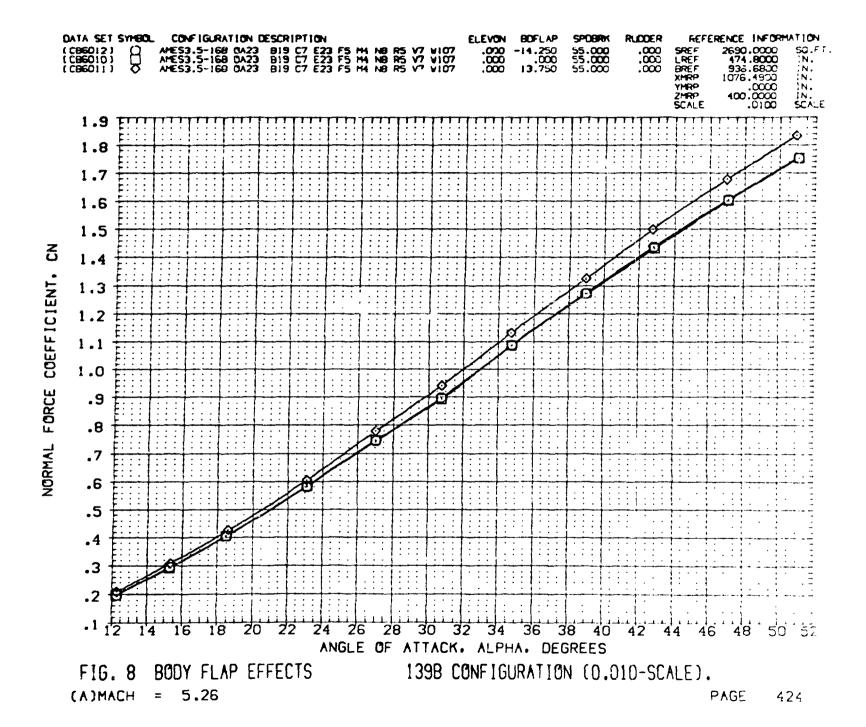


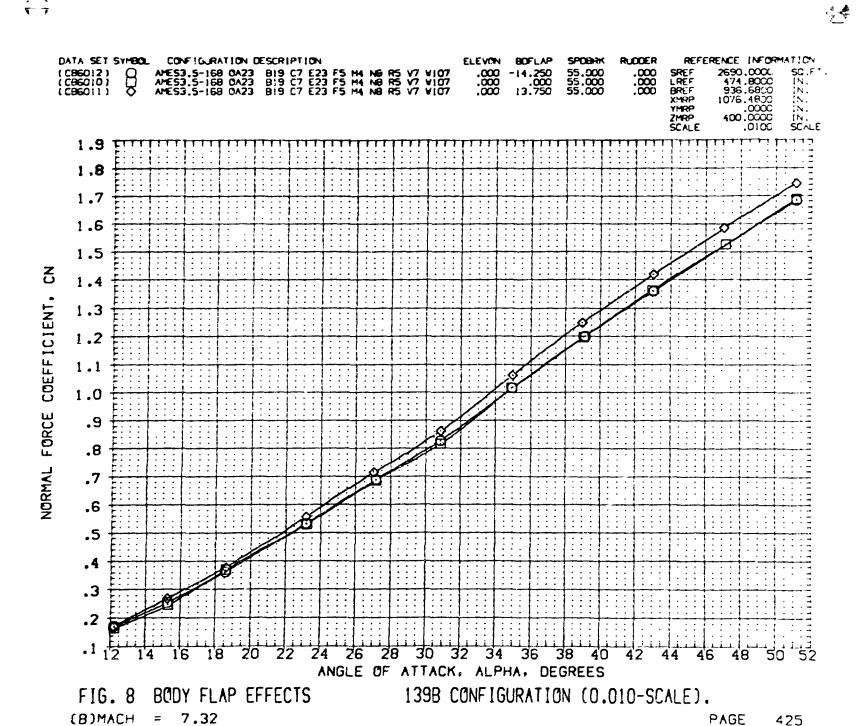
PAGE 421

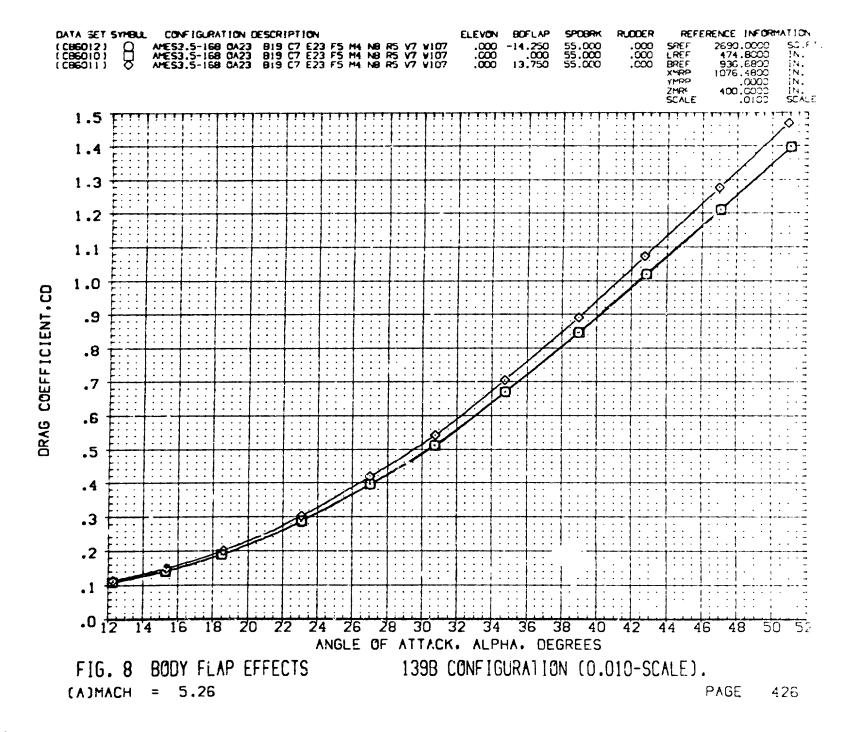


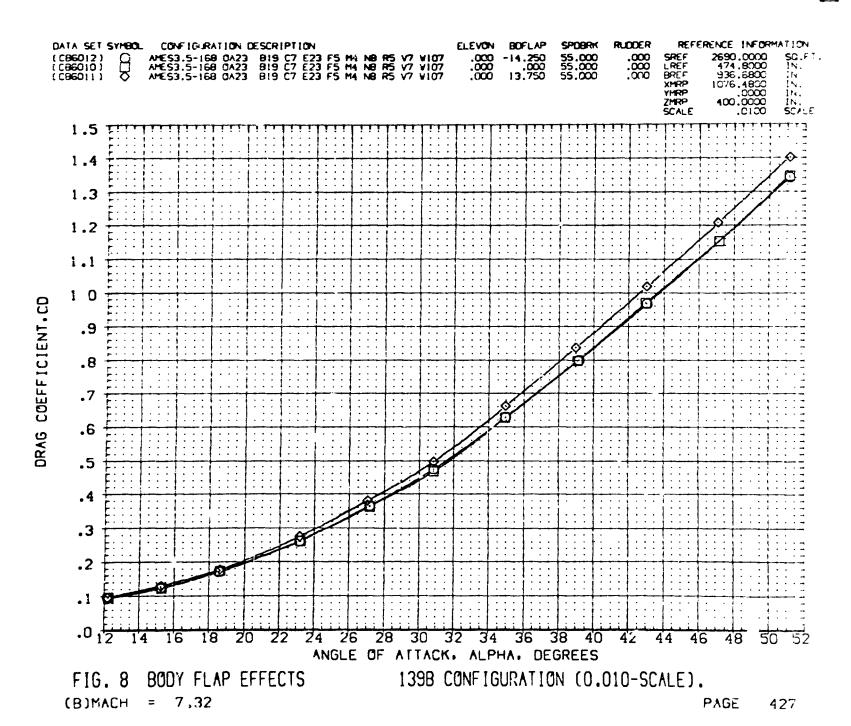
\* 1

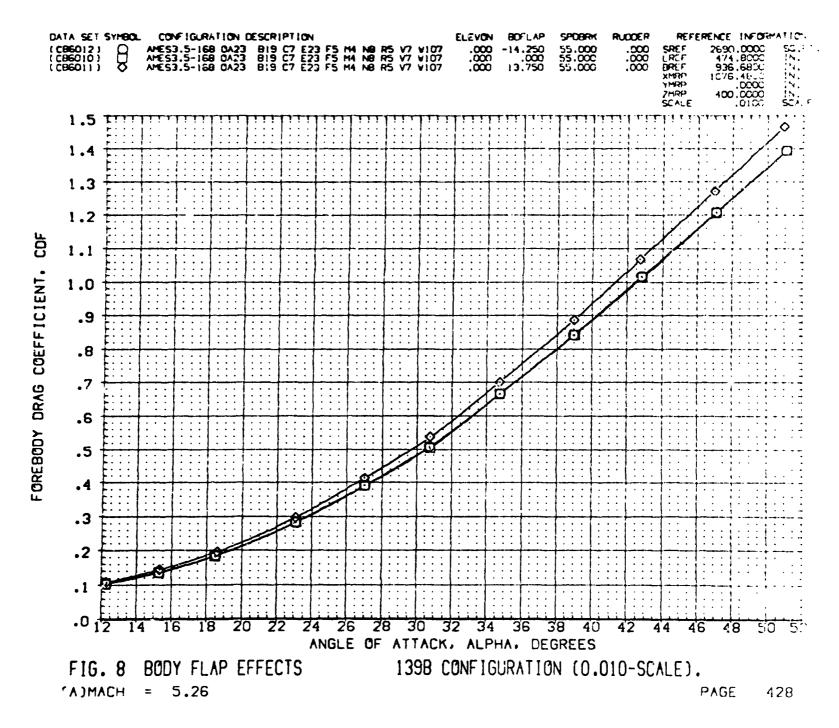






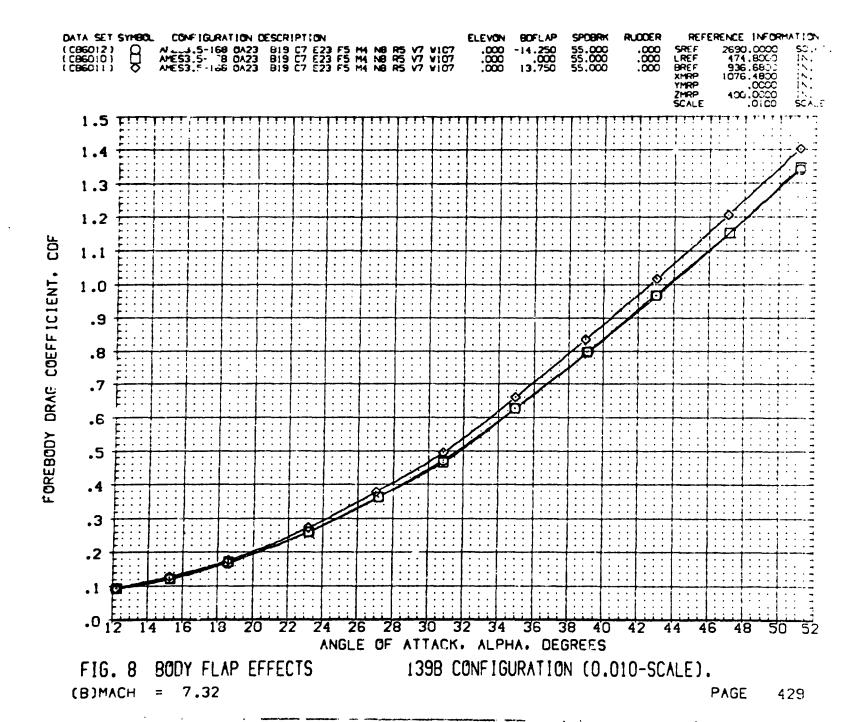


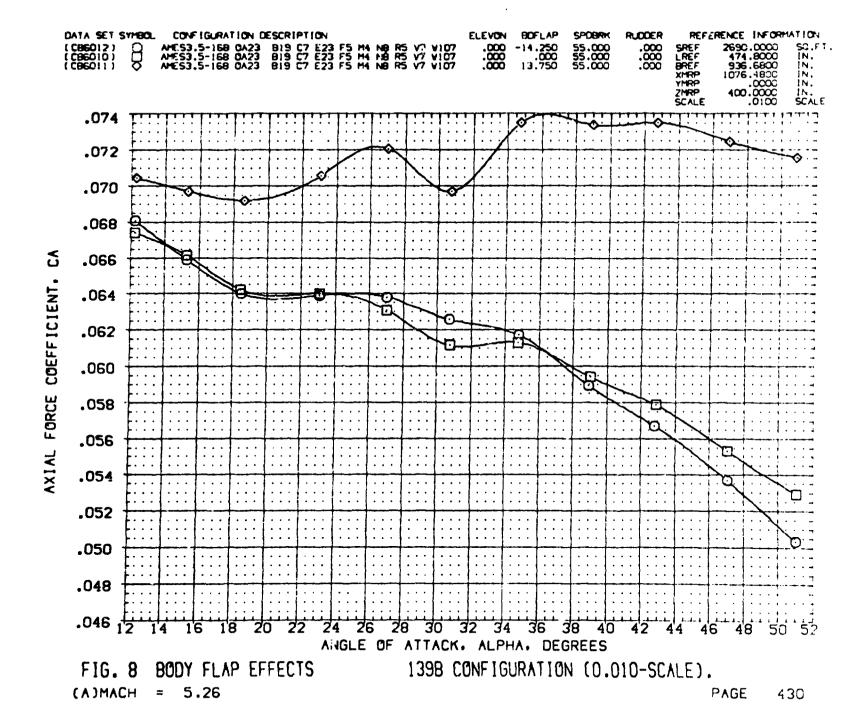


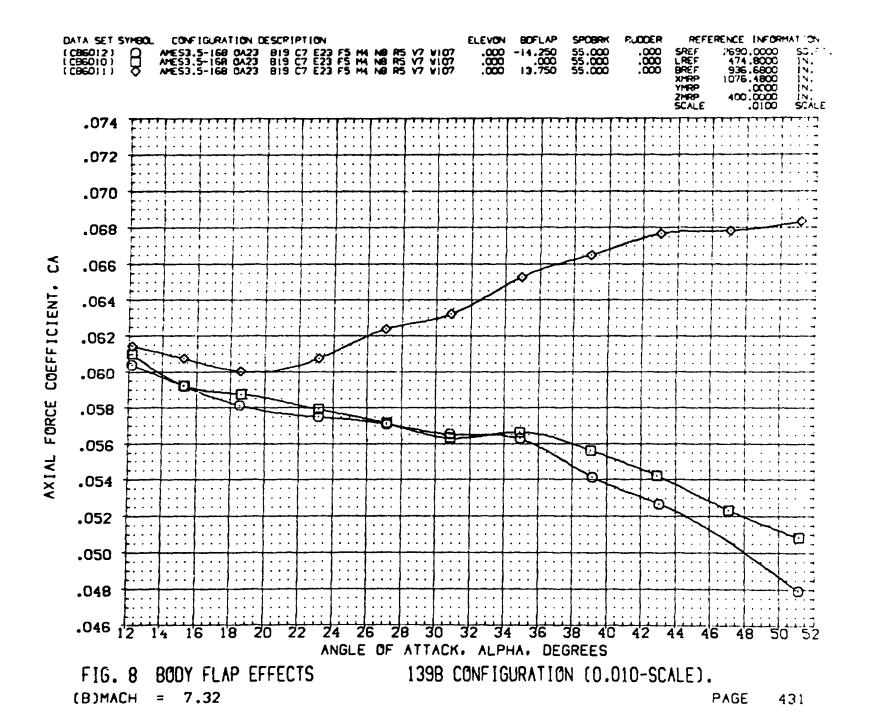


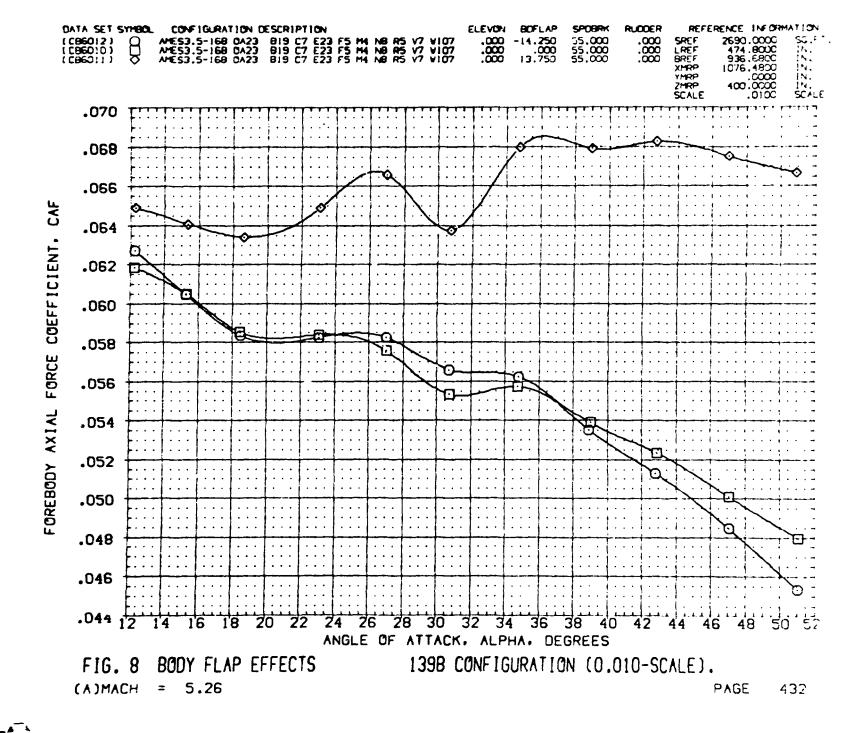
\*\*

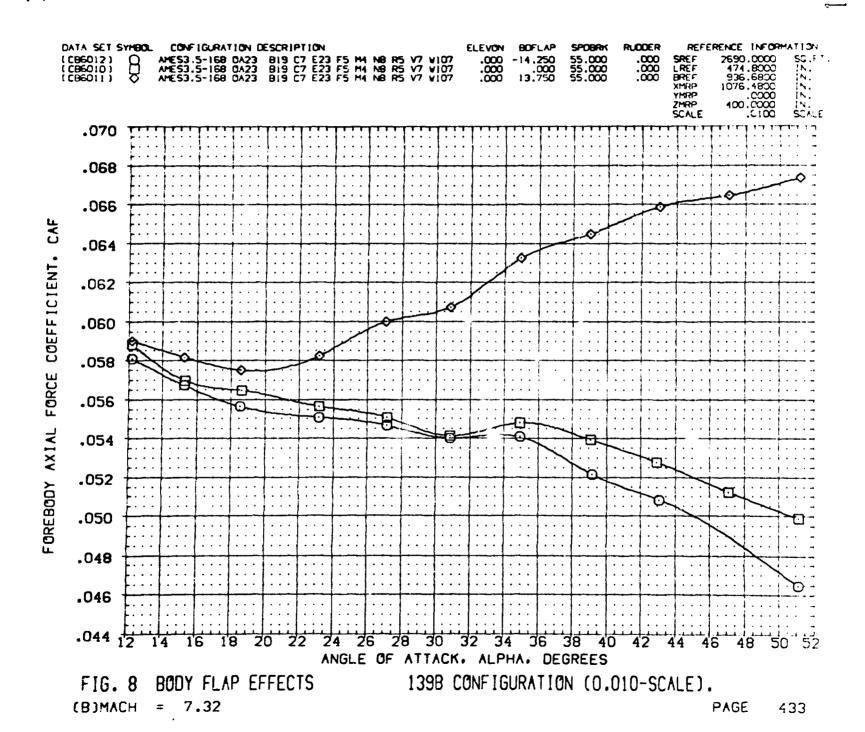
Marie Company

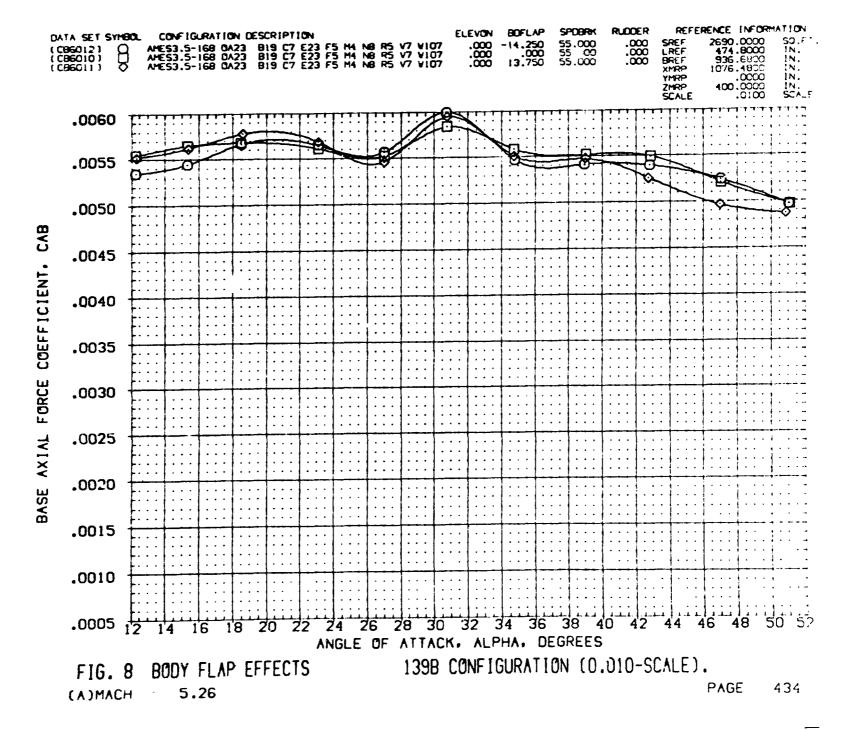




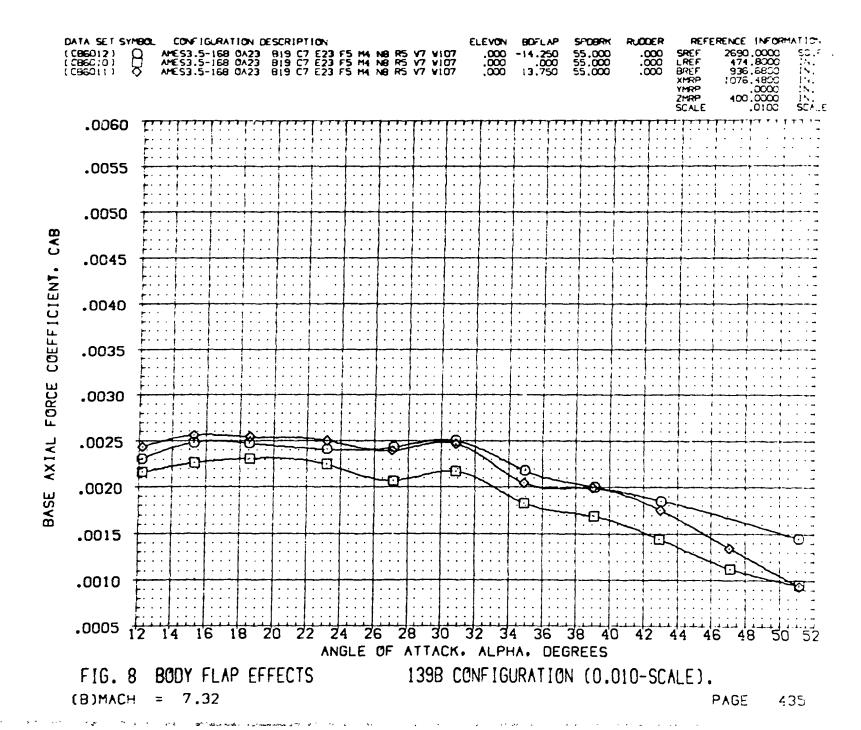


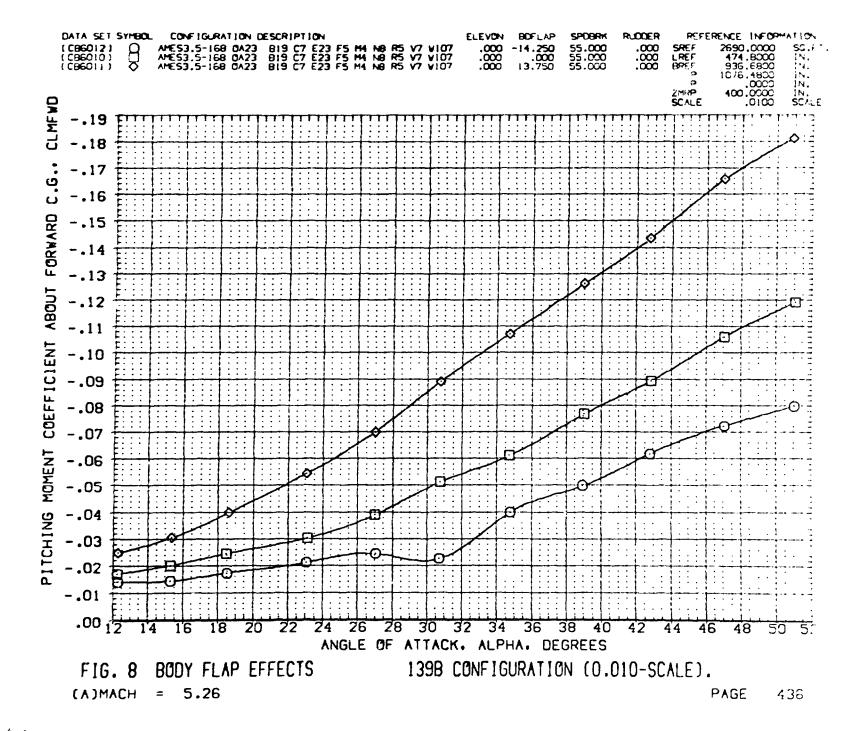




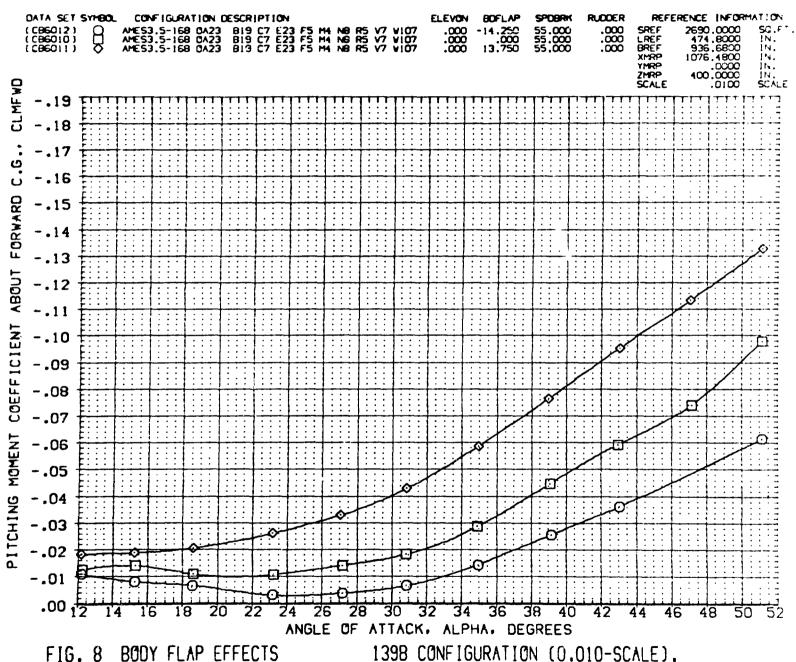


**—** 



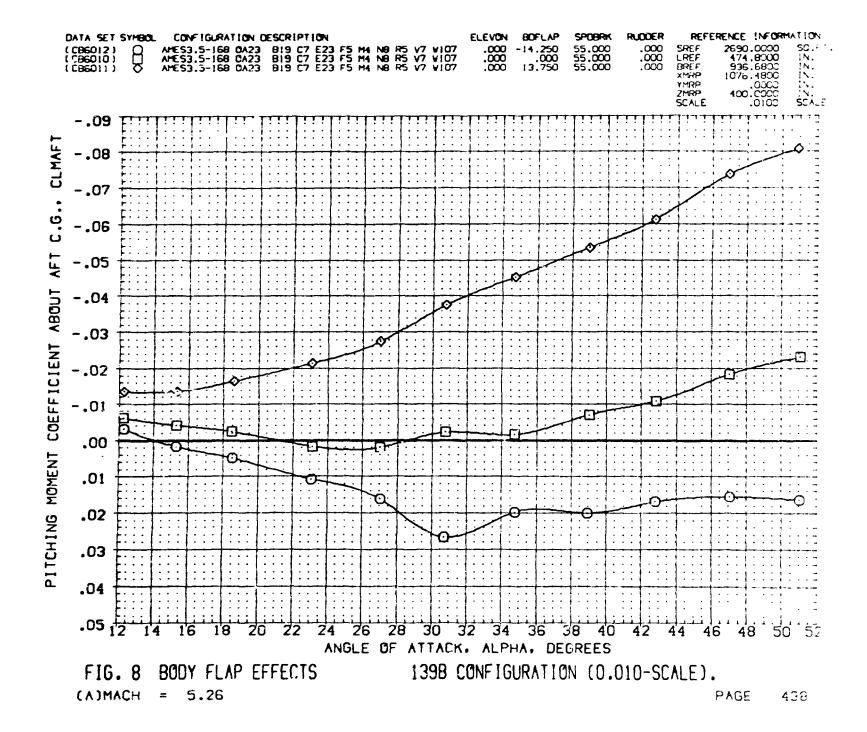


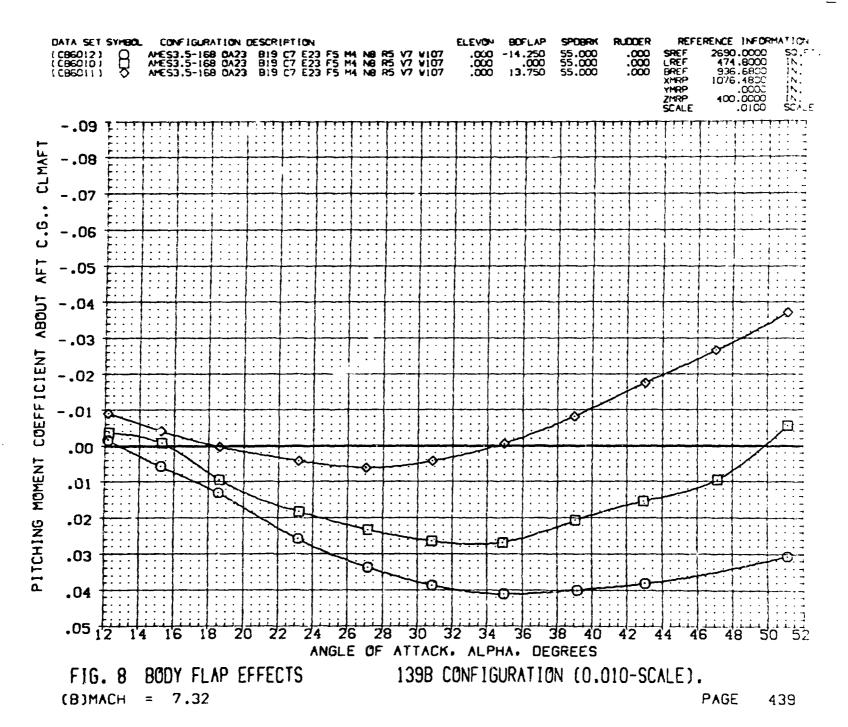




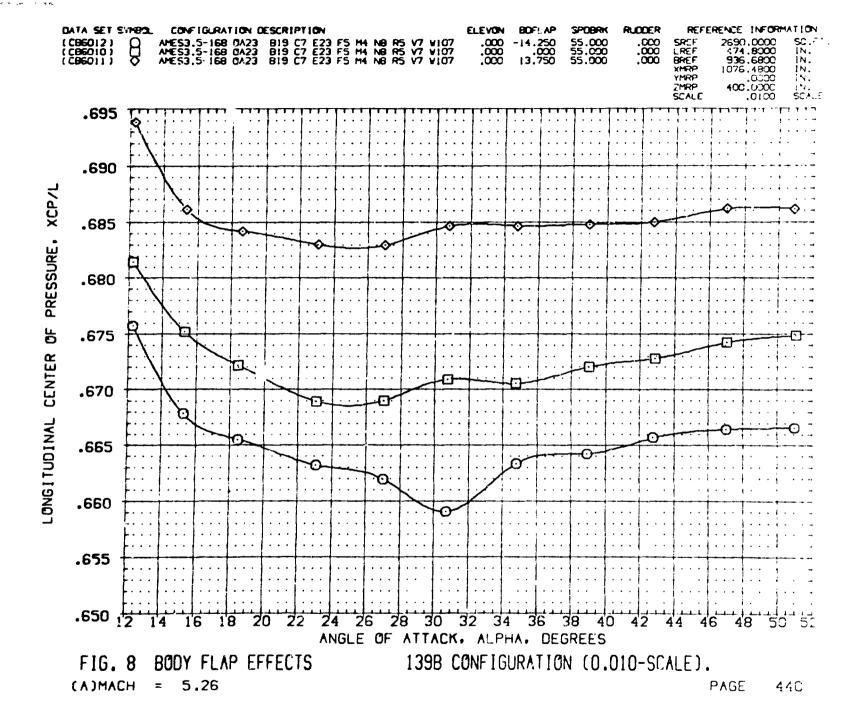
(B)MACH = 7.32

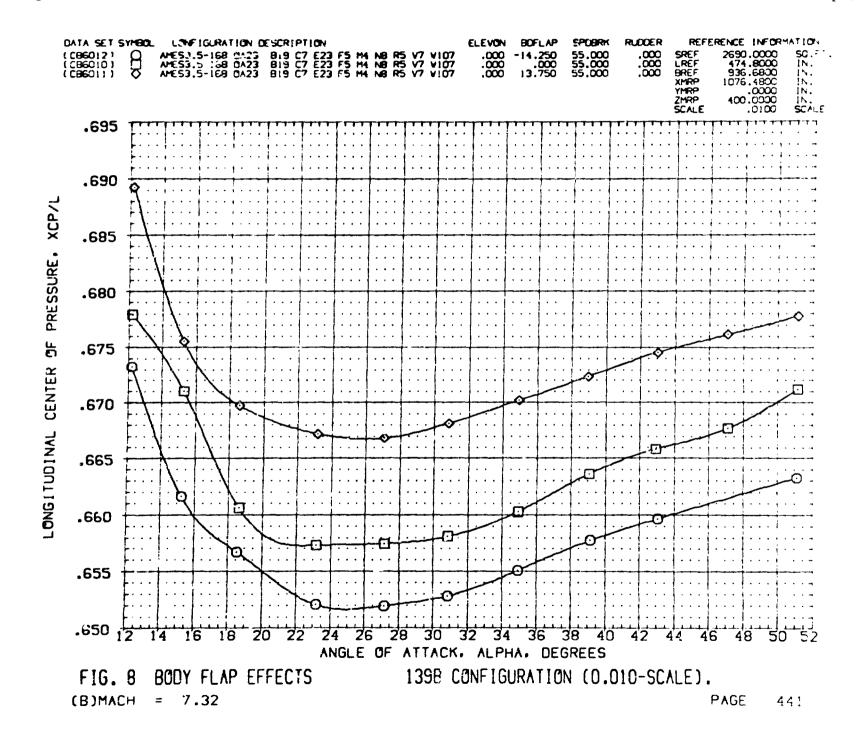
PAGE 437

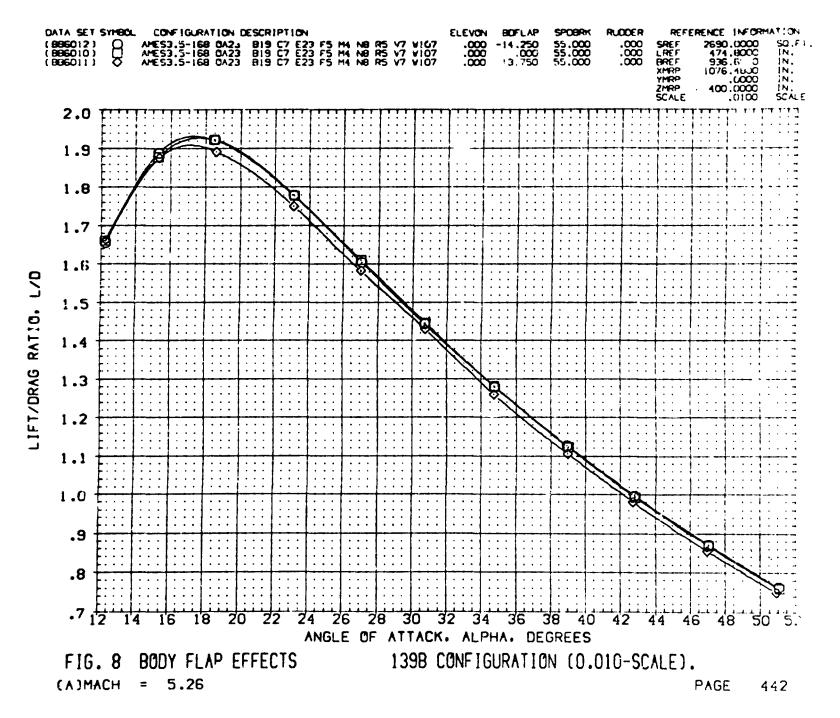


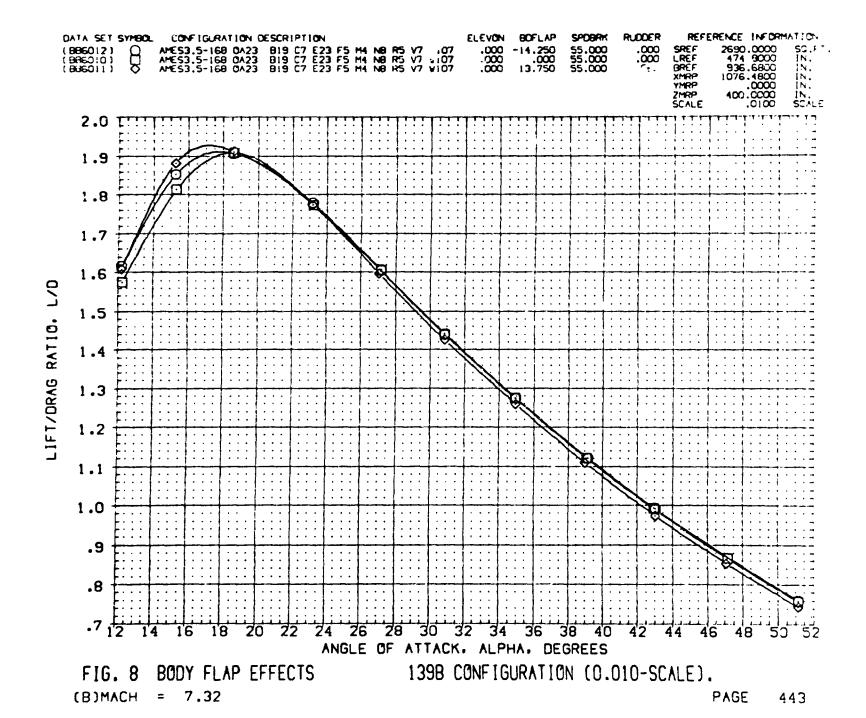


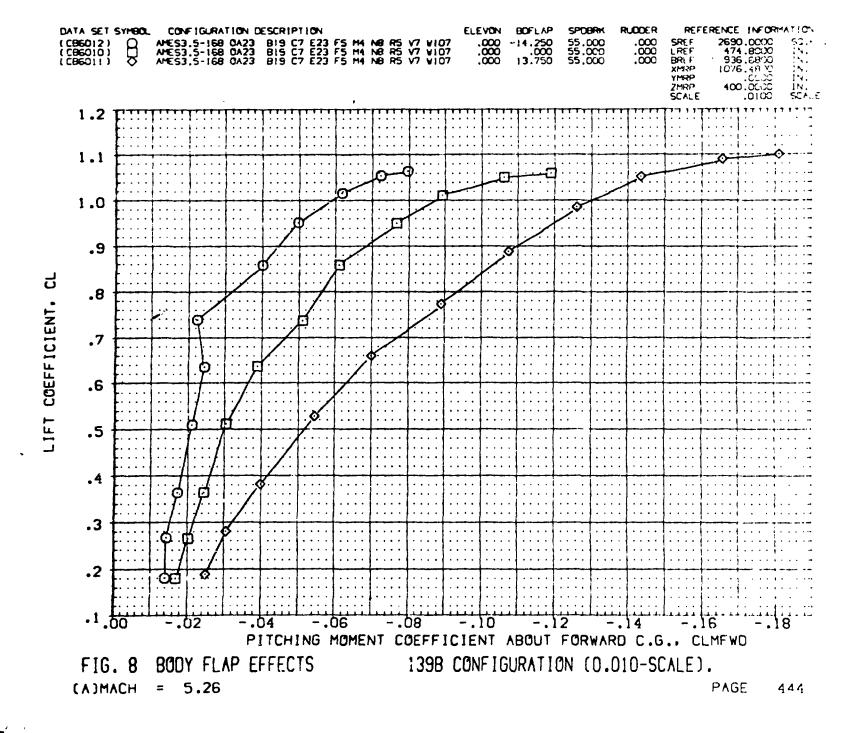
1 1

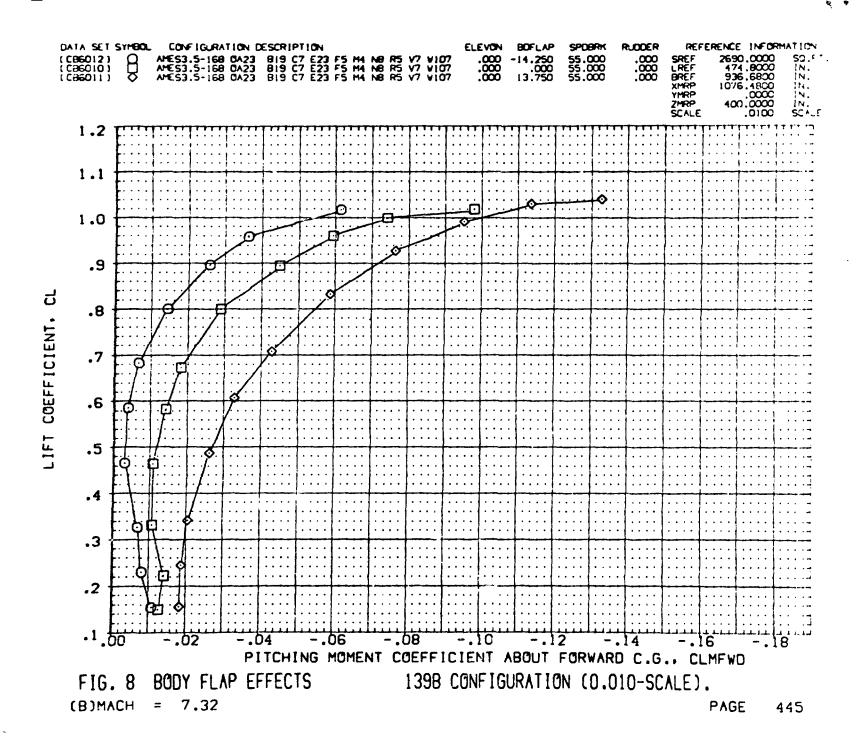


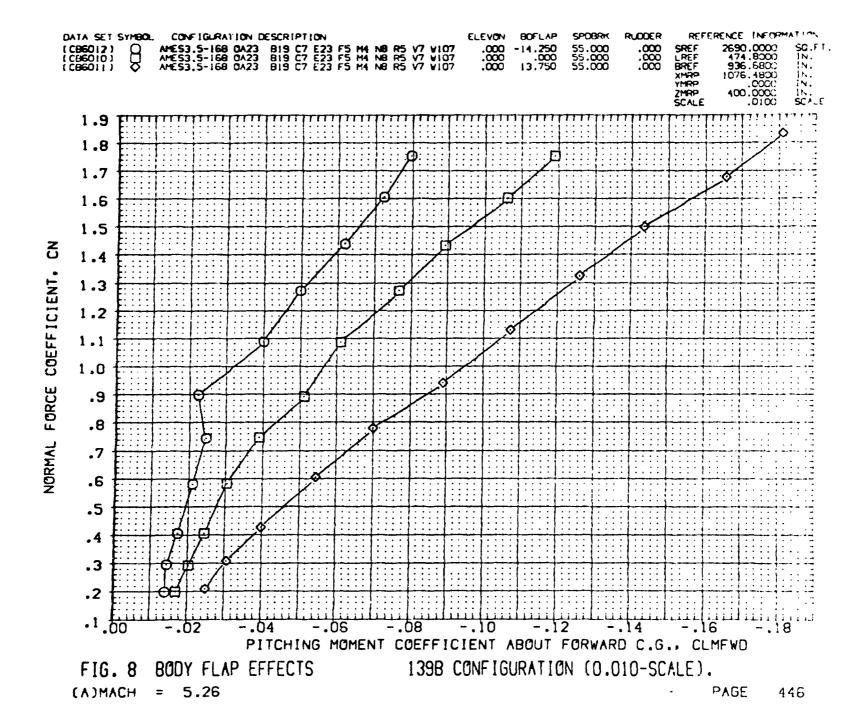


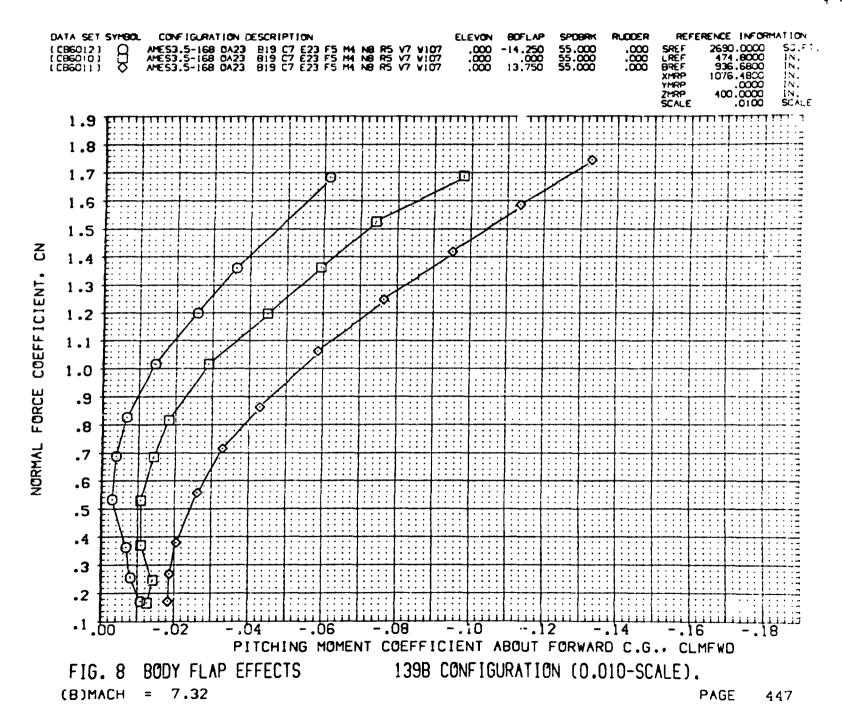




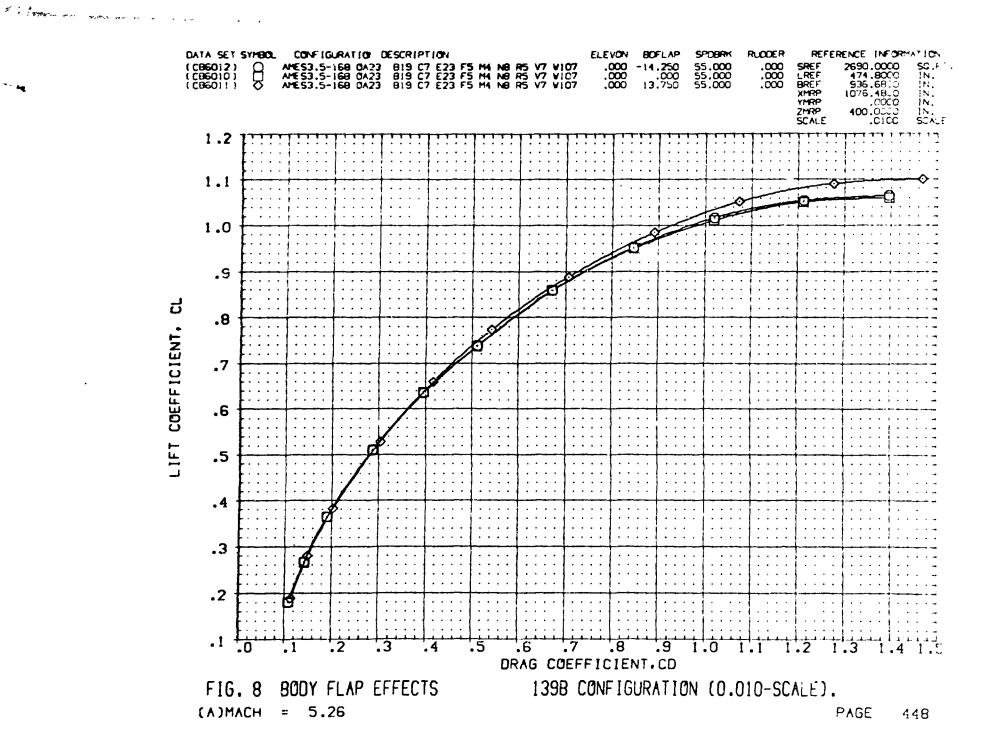


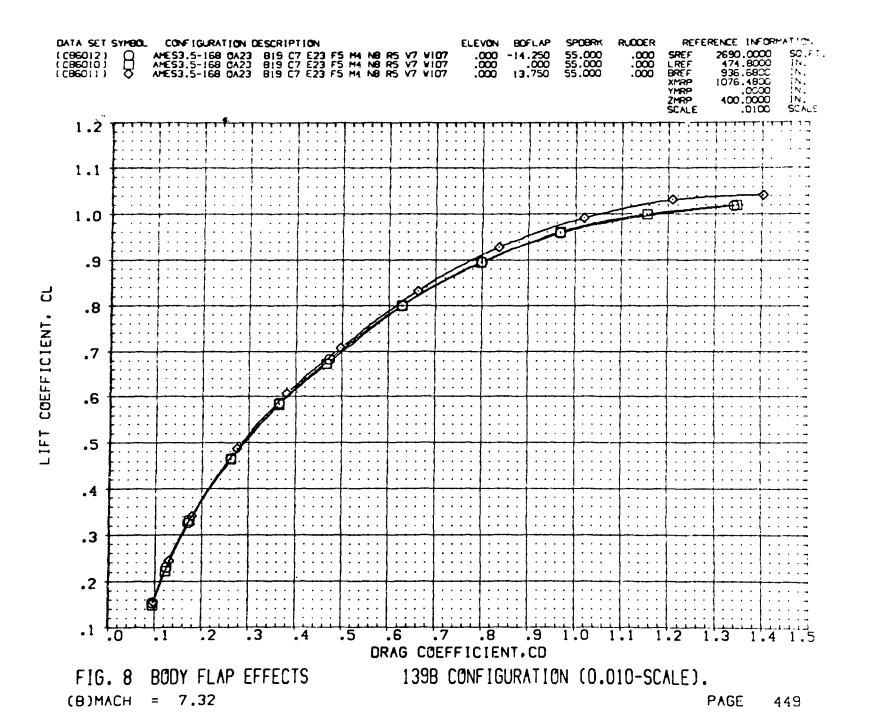


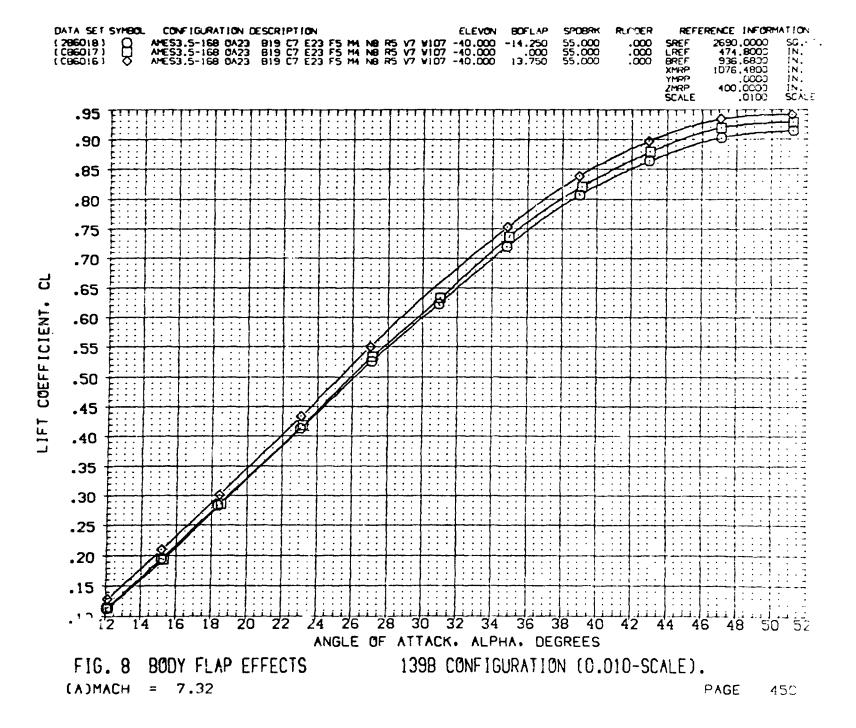




. .







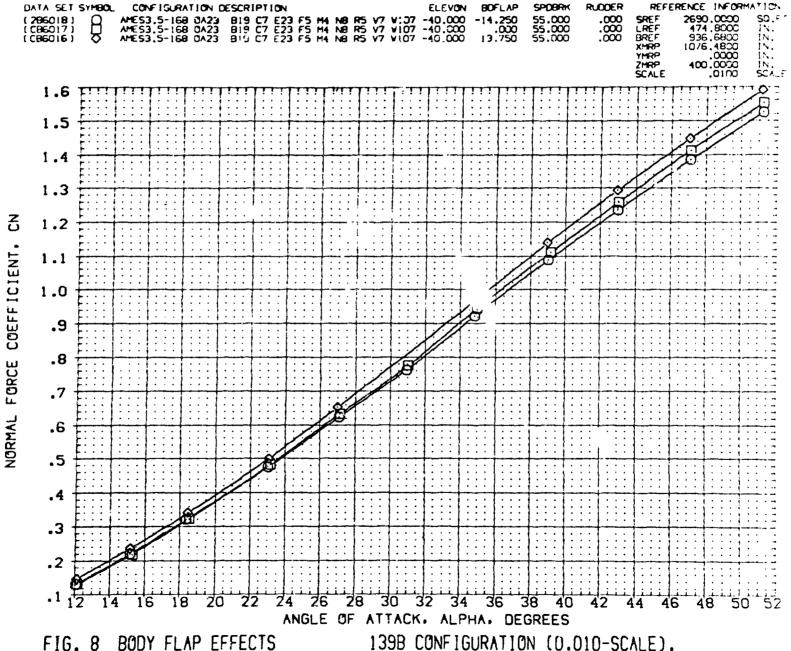
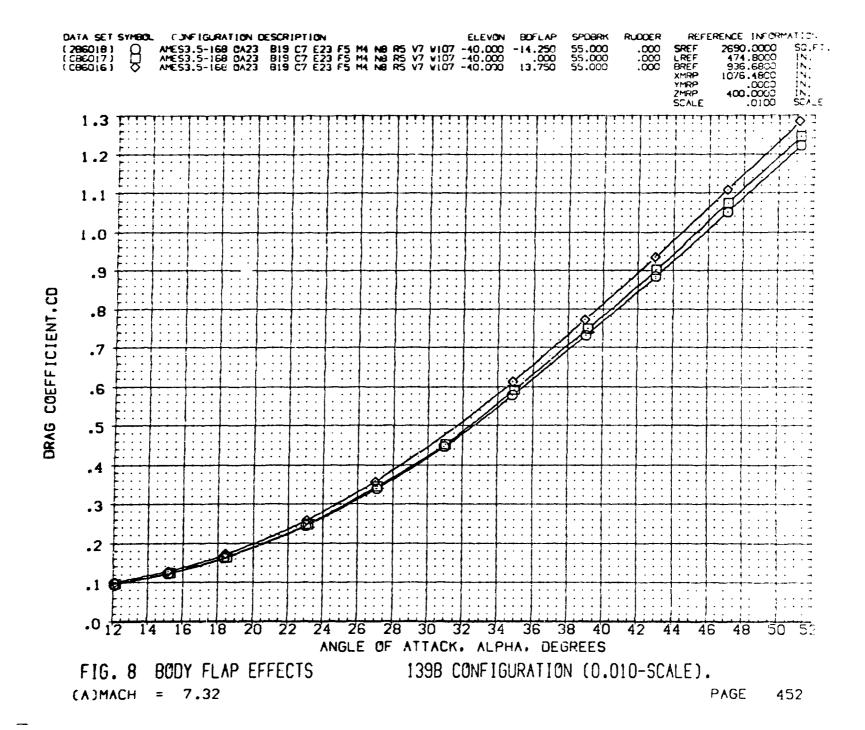


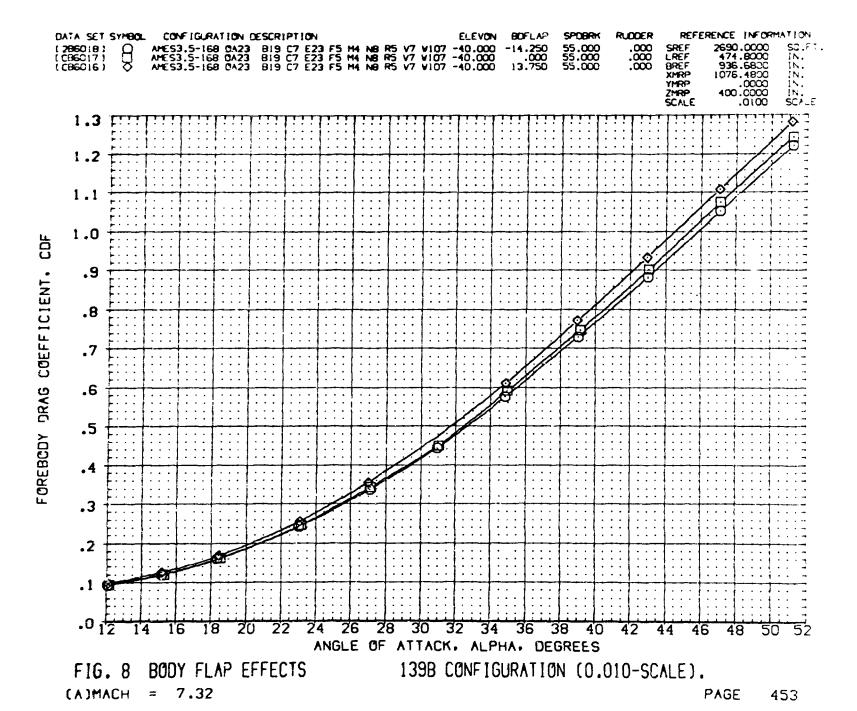
FIG. 8 (A)MACH = 7.32

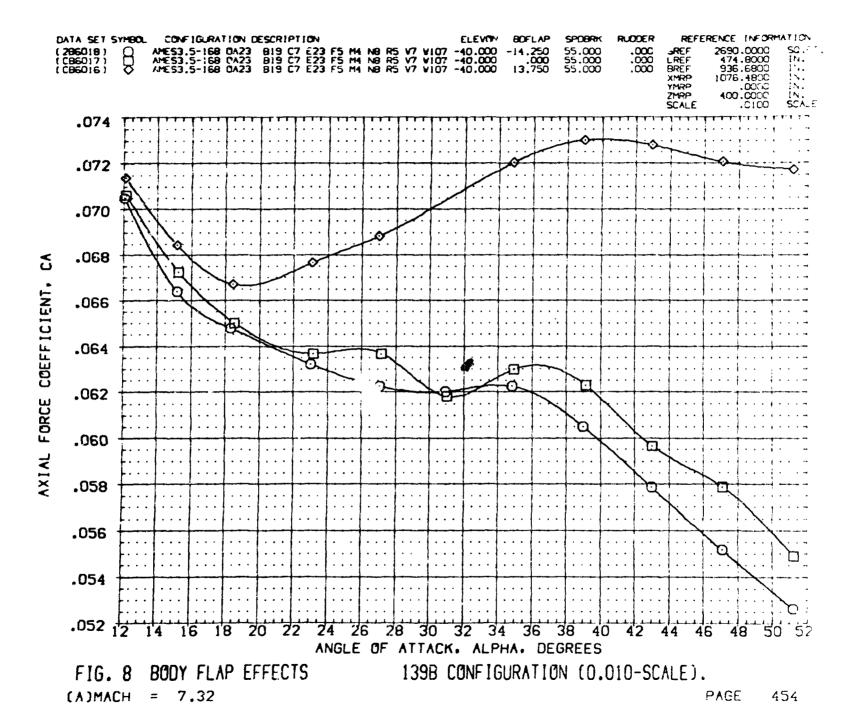
₹ \$

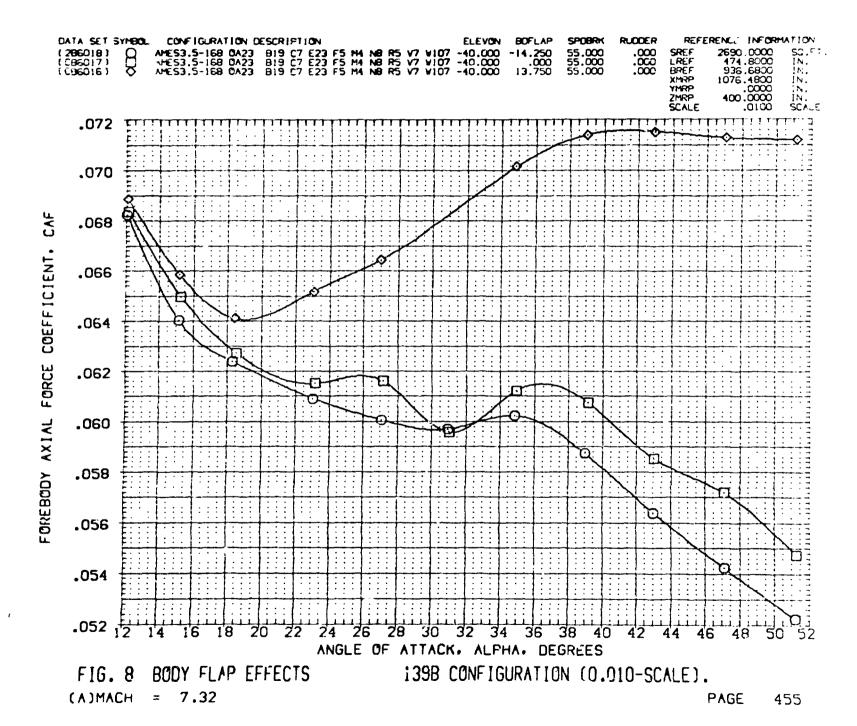
139B CONFIGURATION (0.010-SCALE).

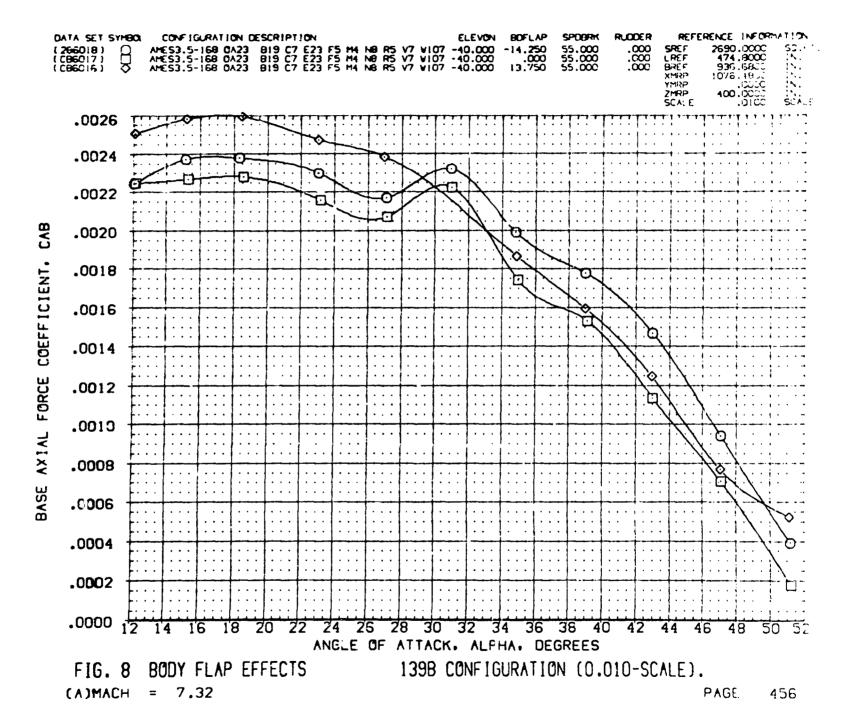
PAGE 451

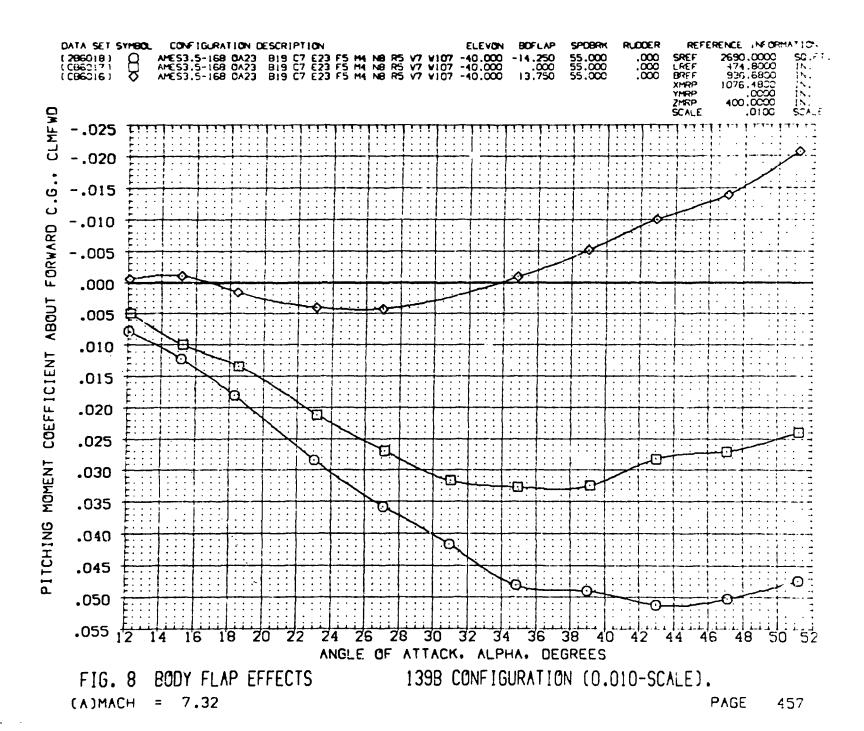


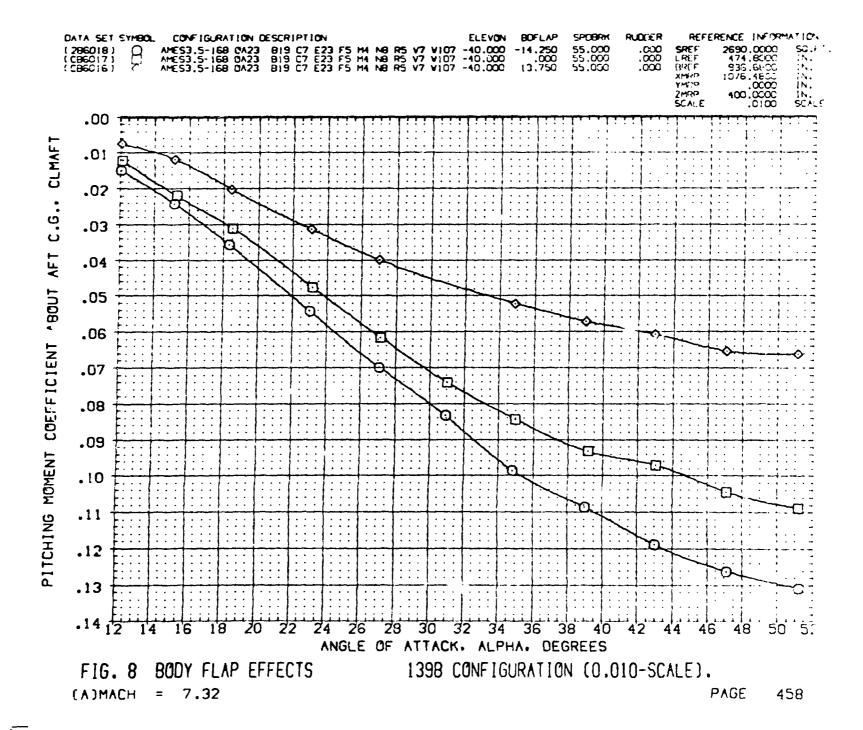


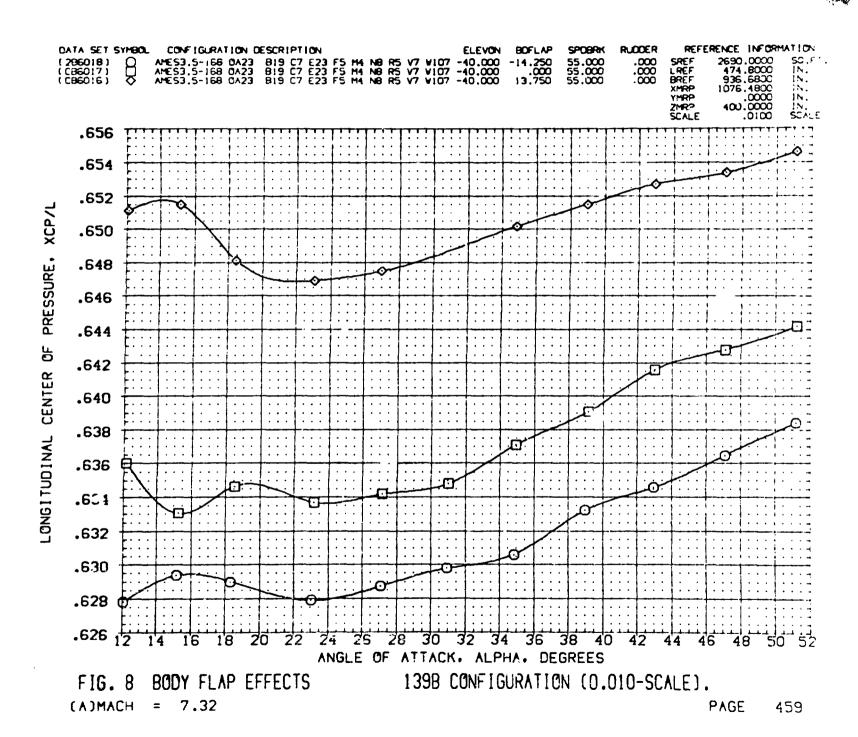




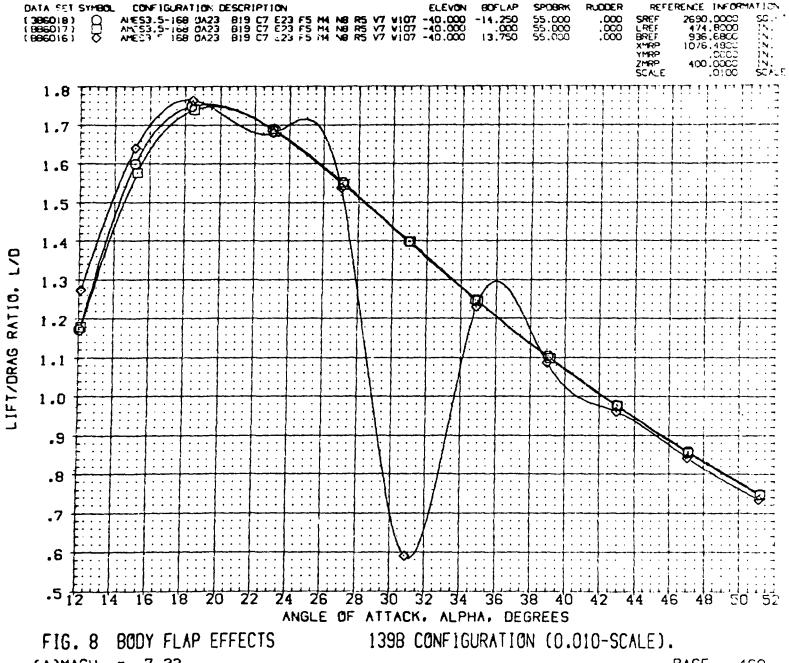






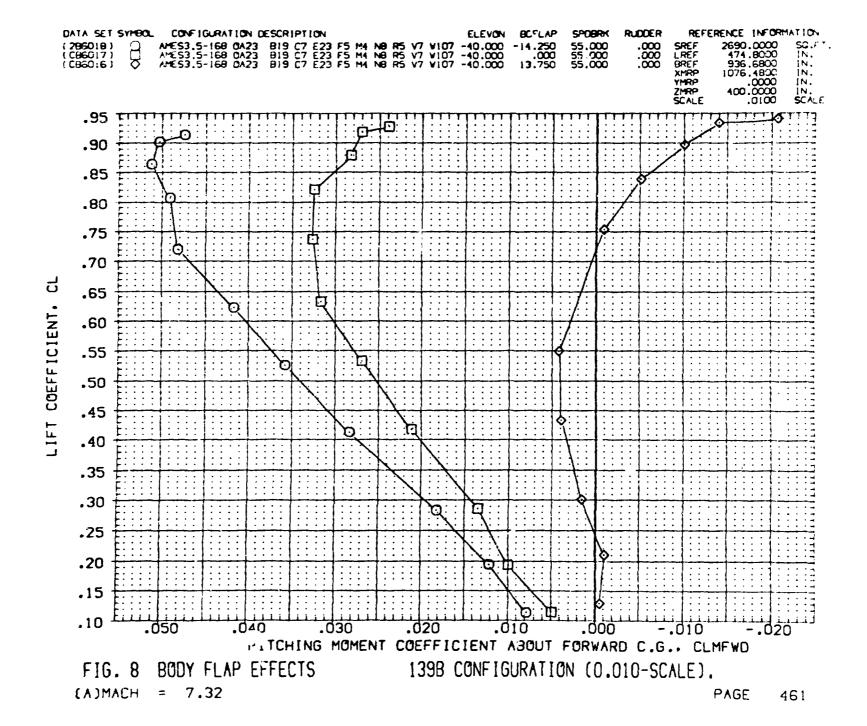


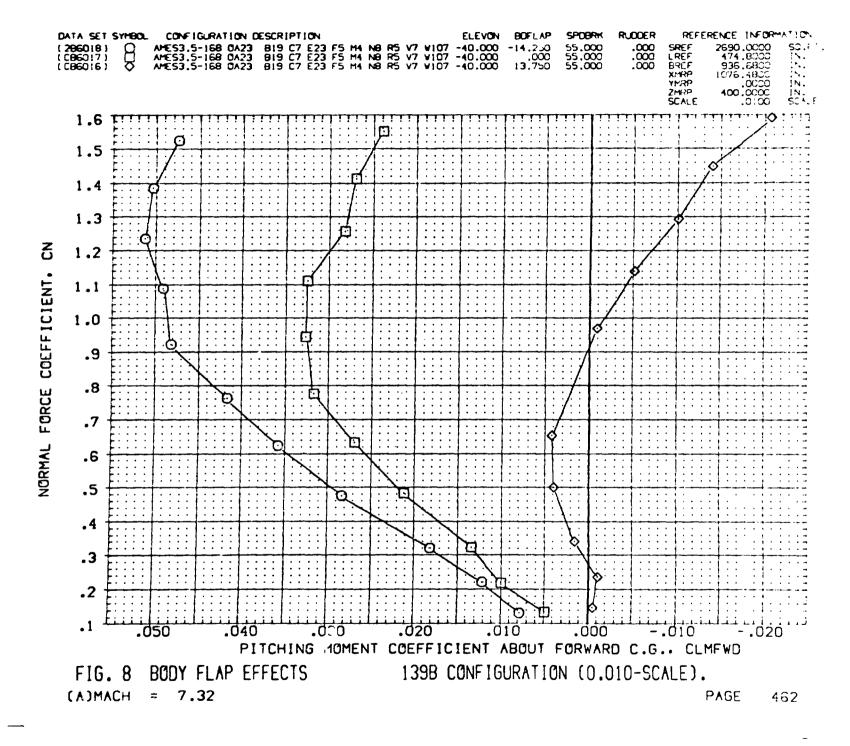
\* #



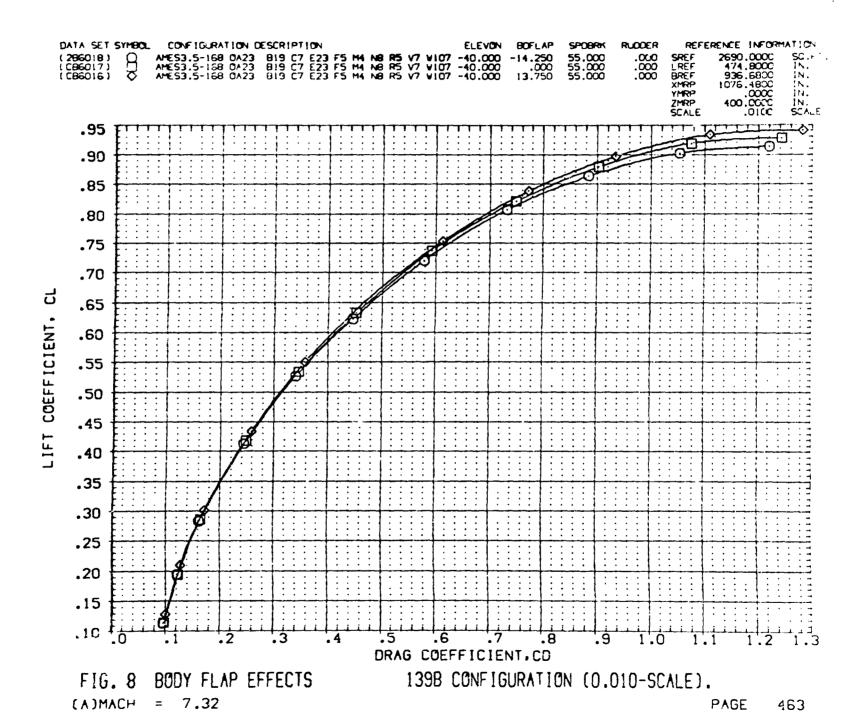
(A)MACH = 7.32

PAGE 460





# \*

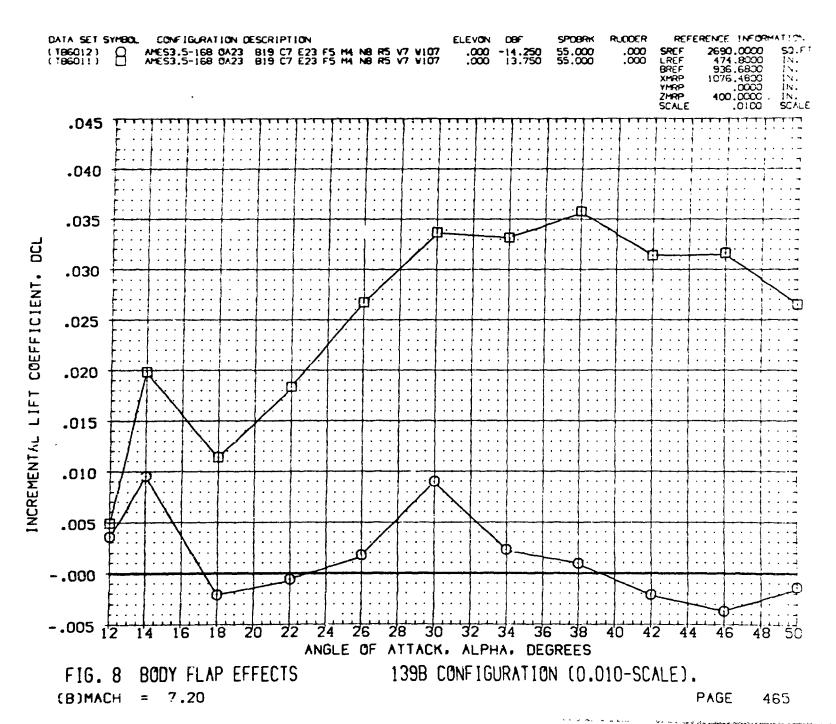


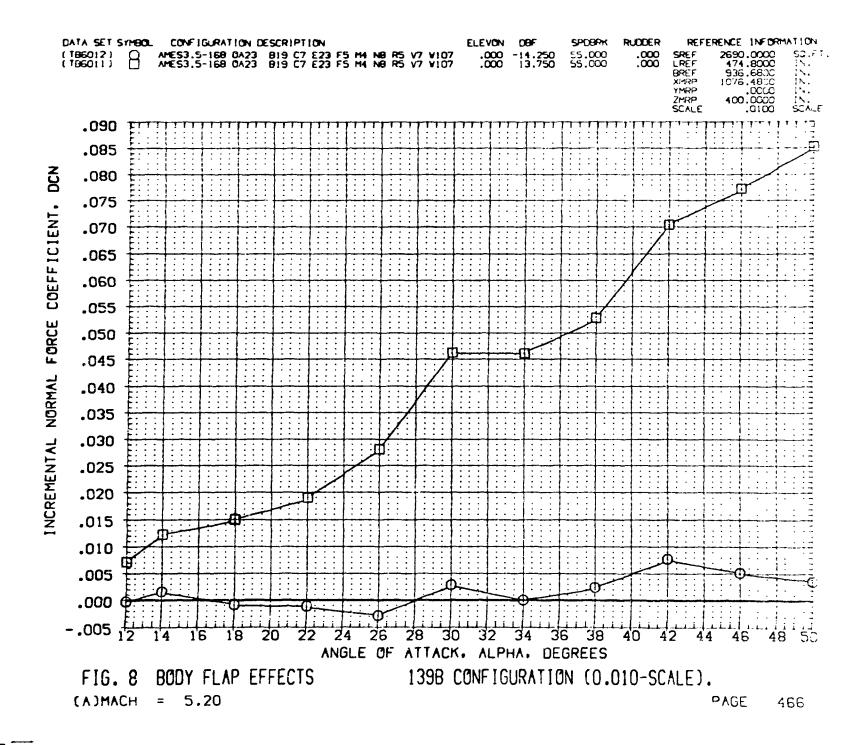
PAGE

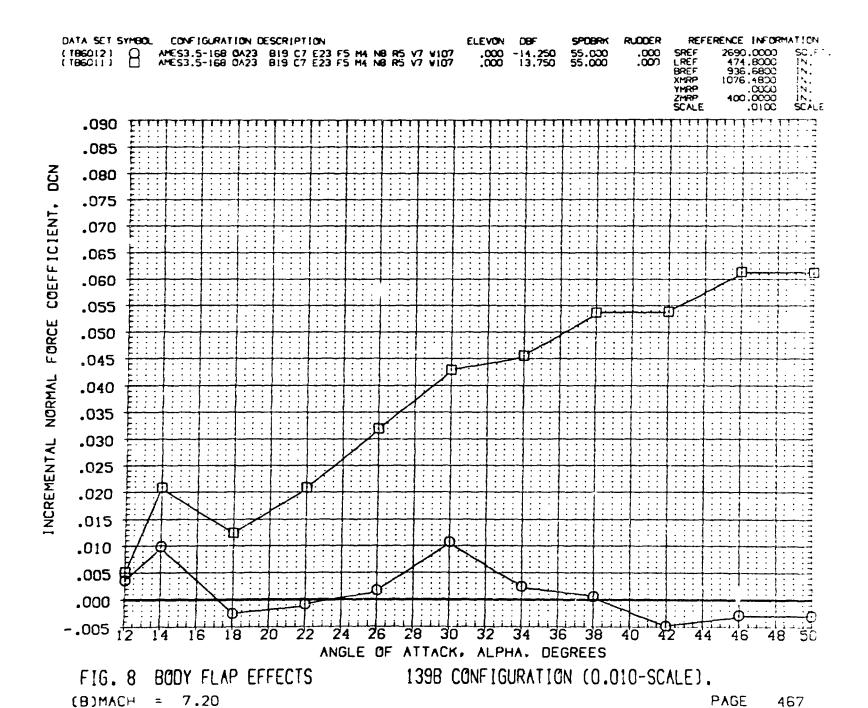
464

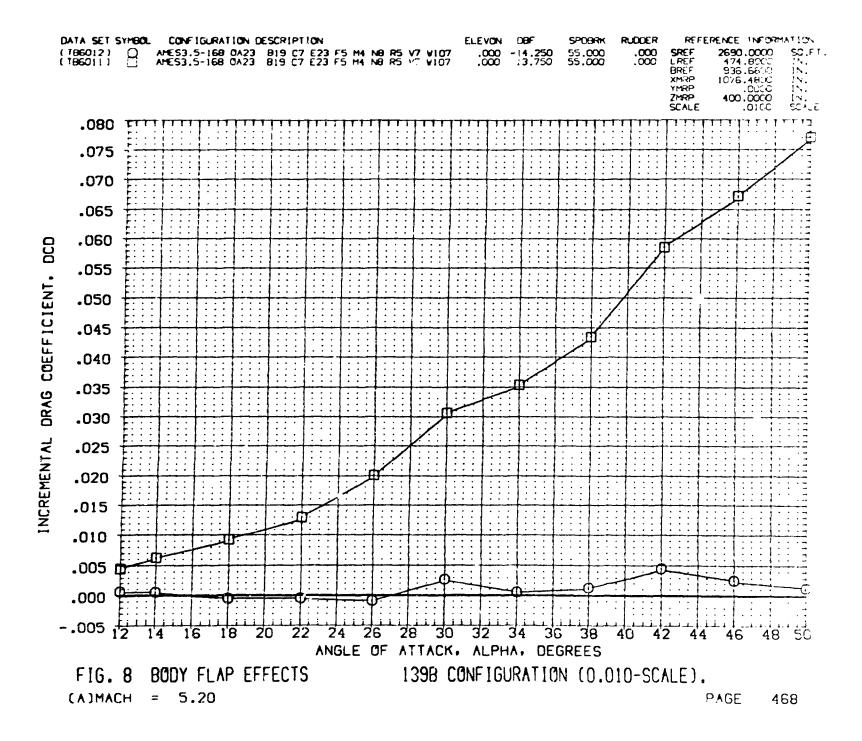
(A)MACH = 5.20

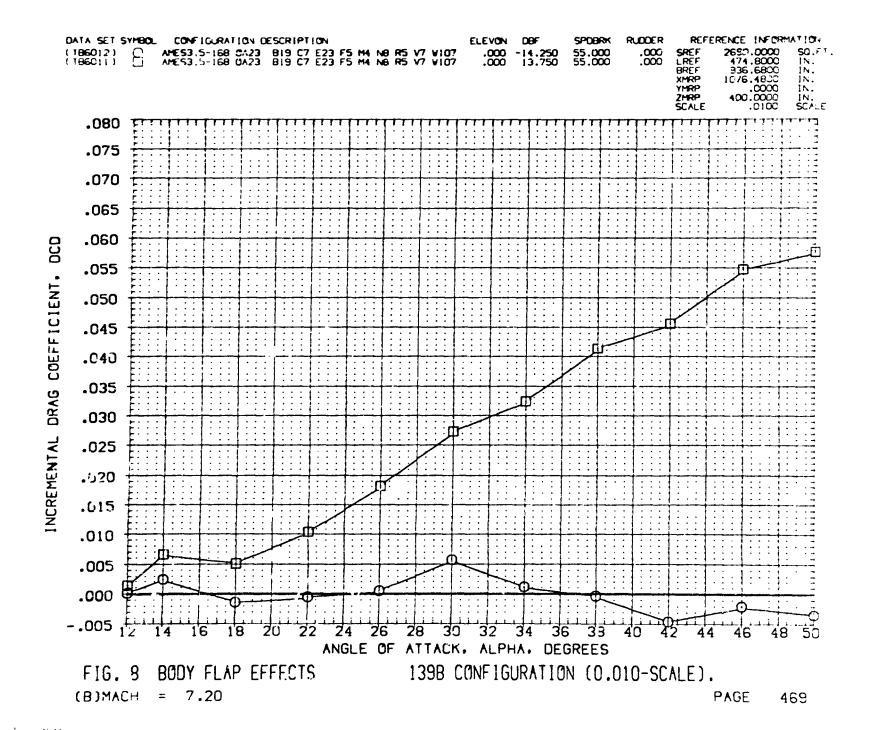


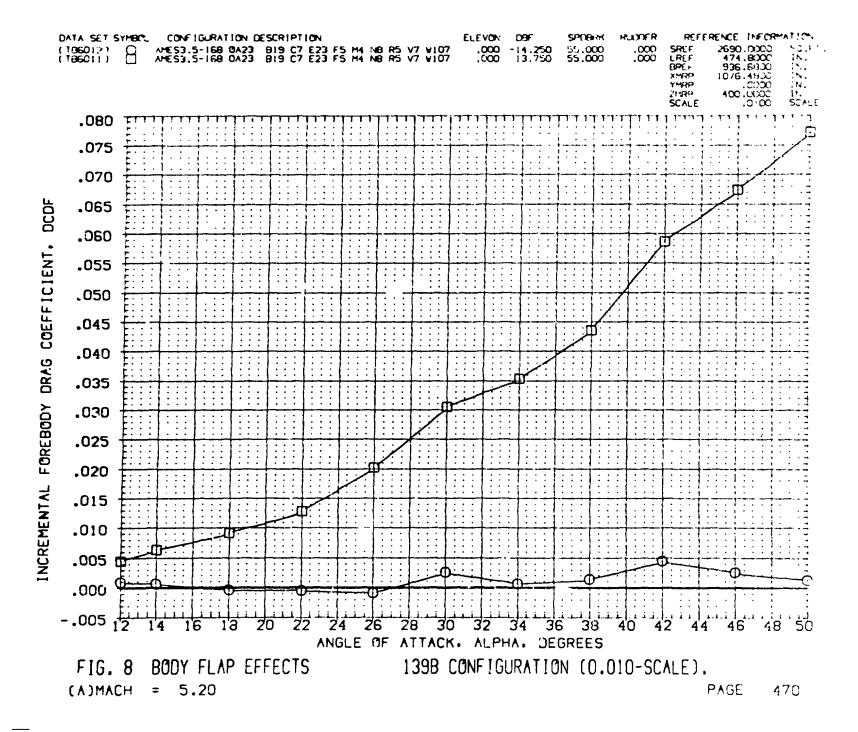


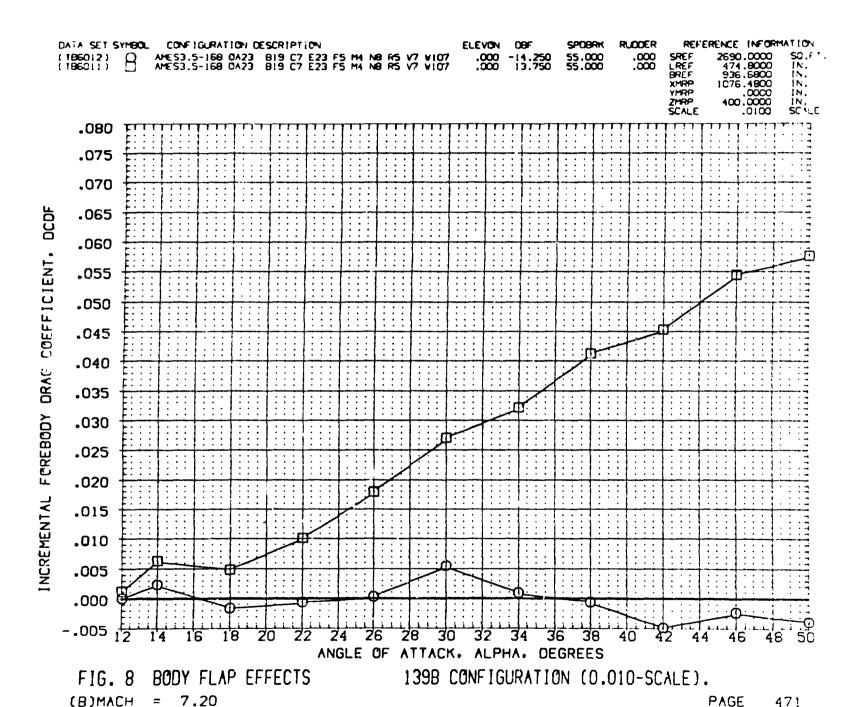


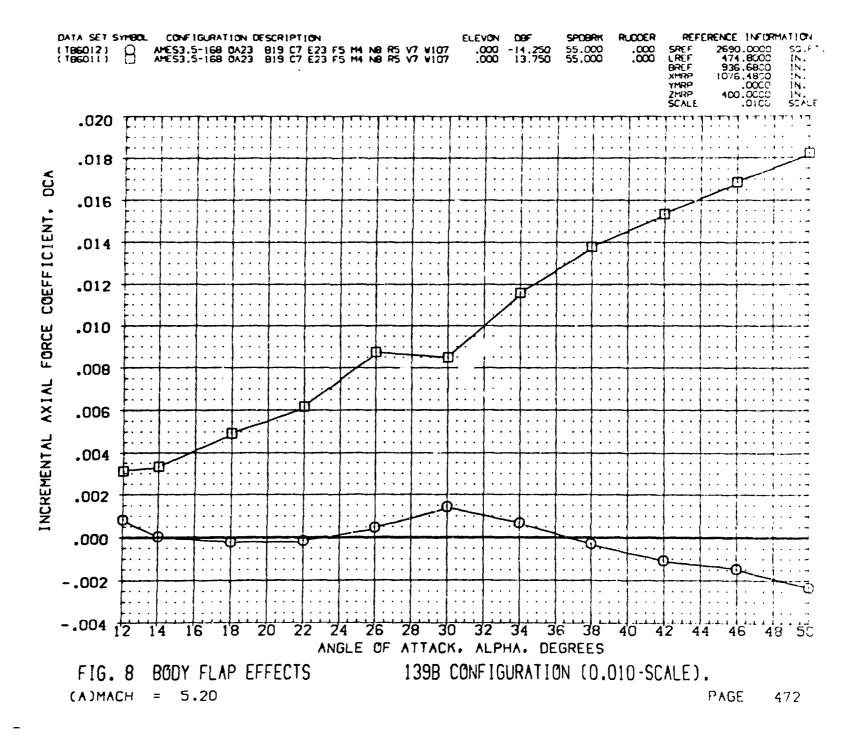


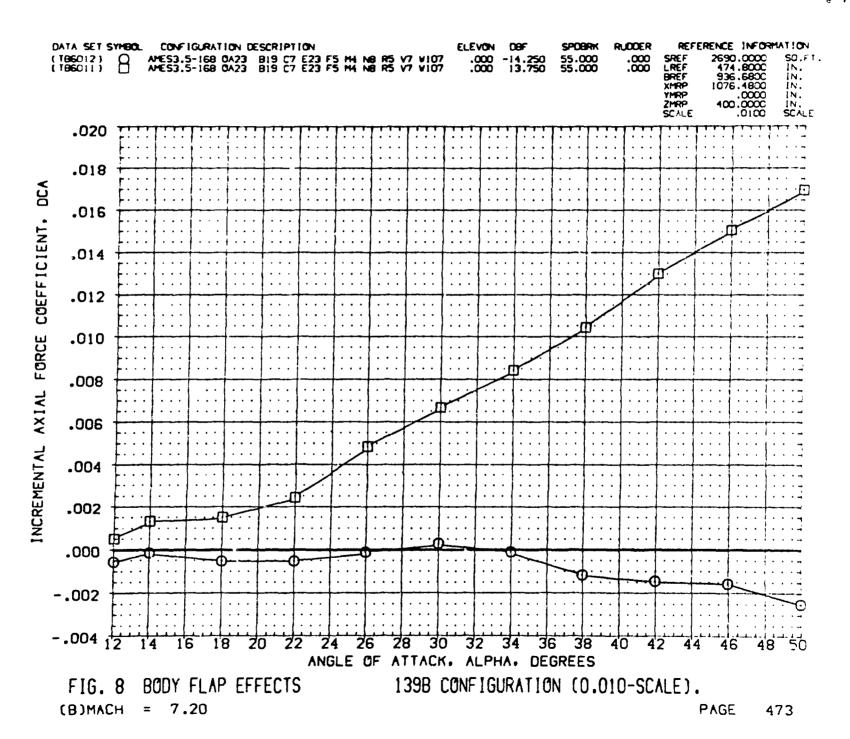


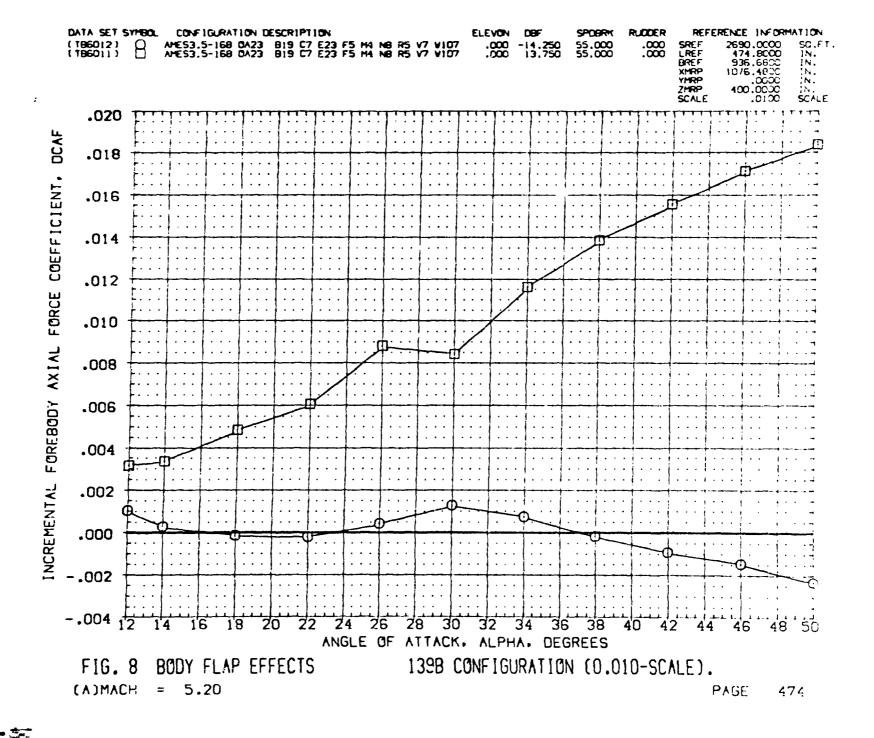


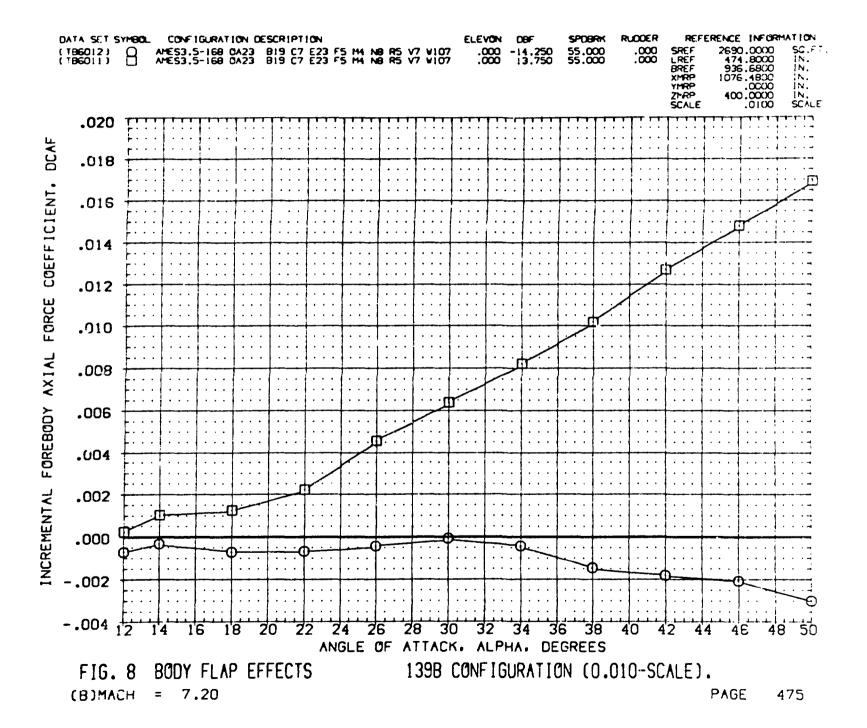


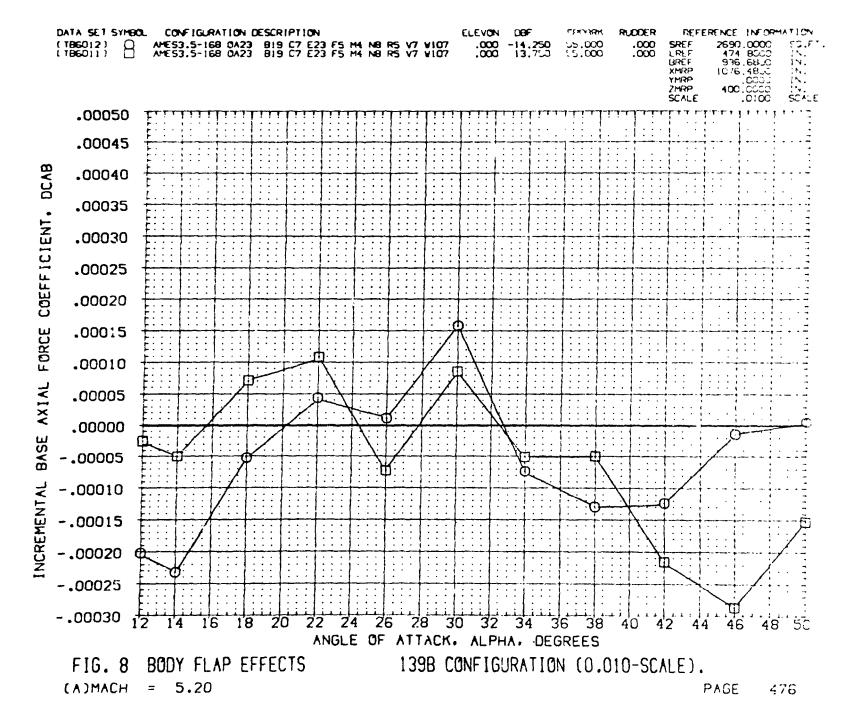


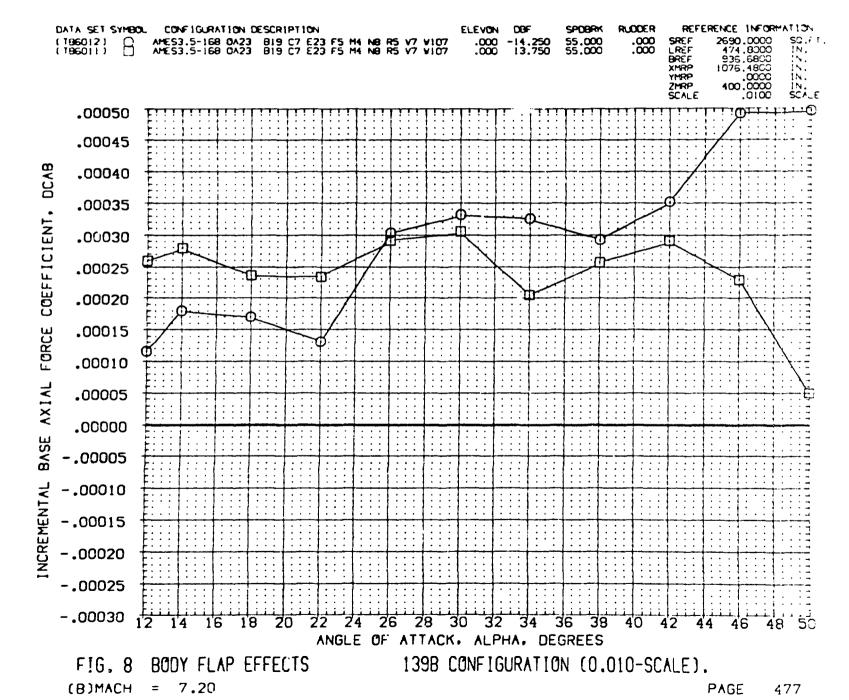


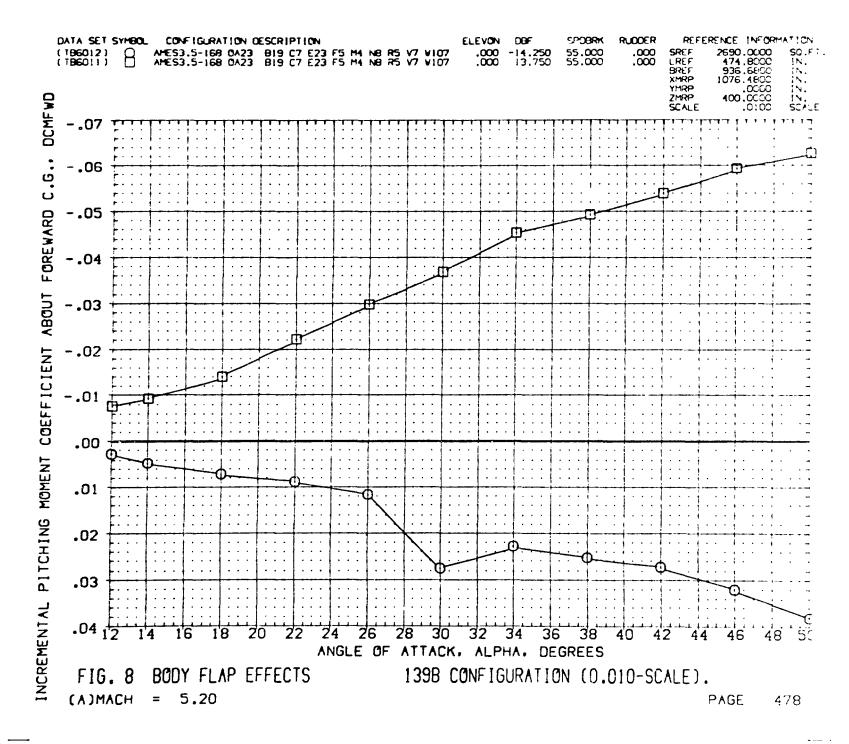


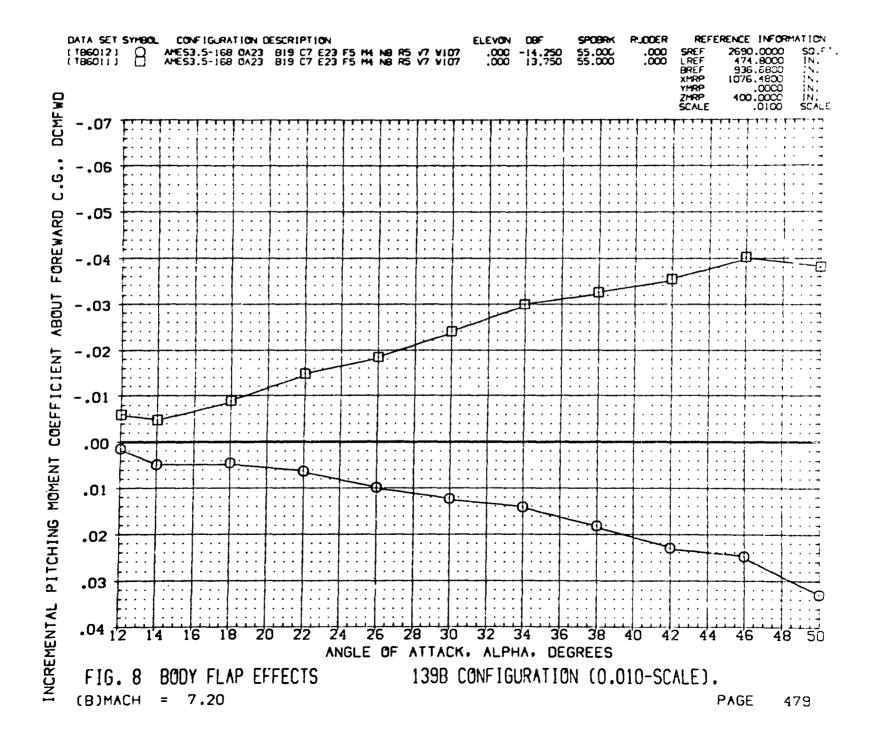


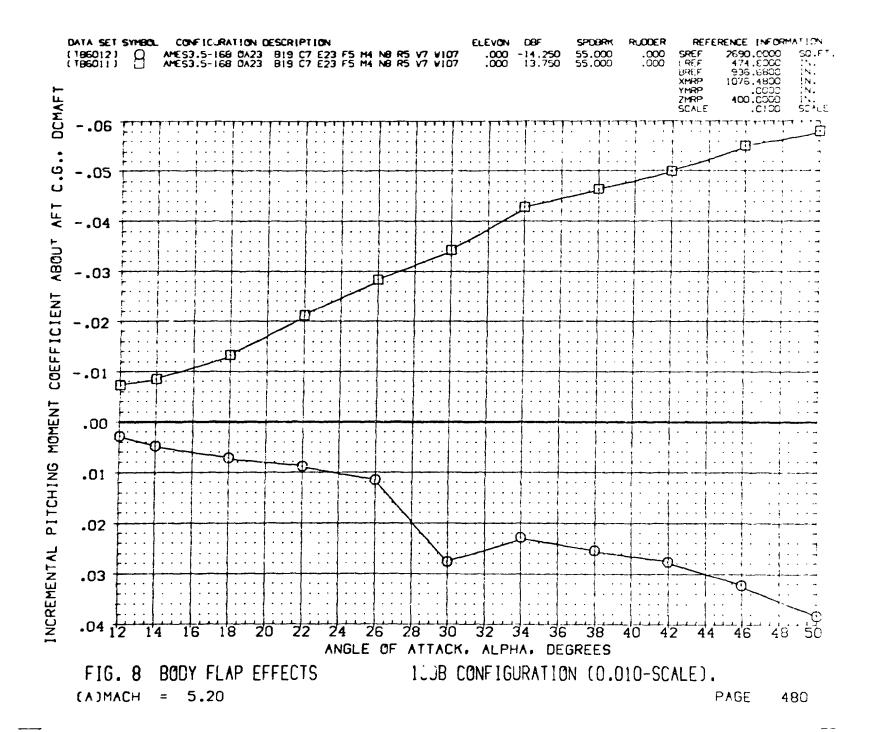


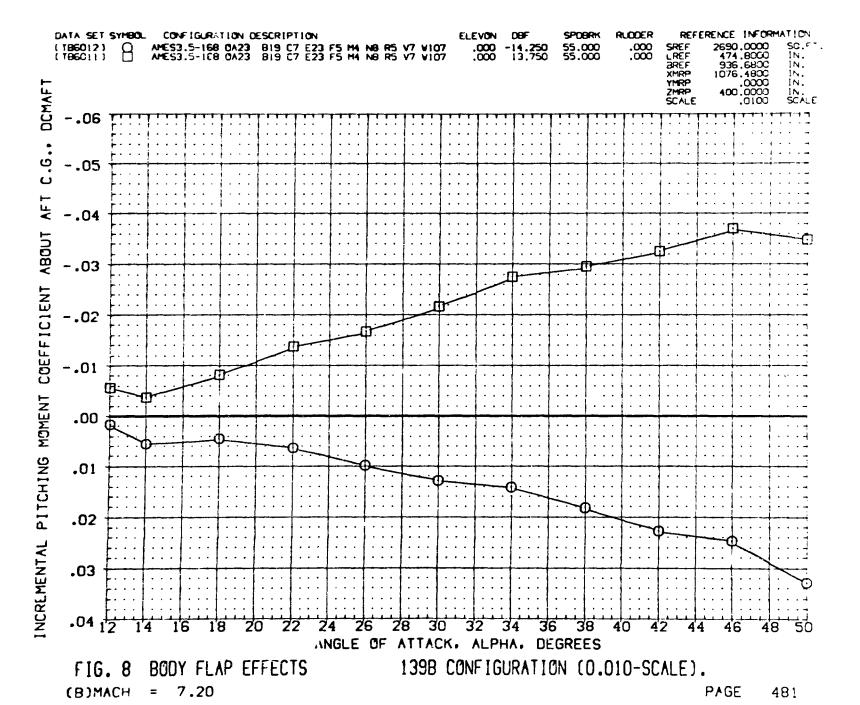


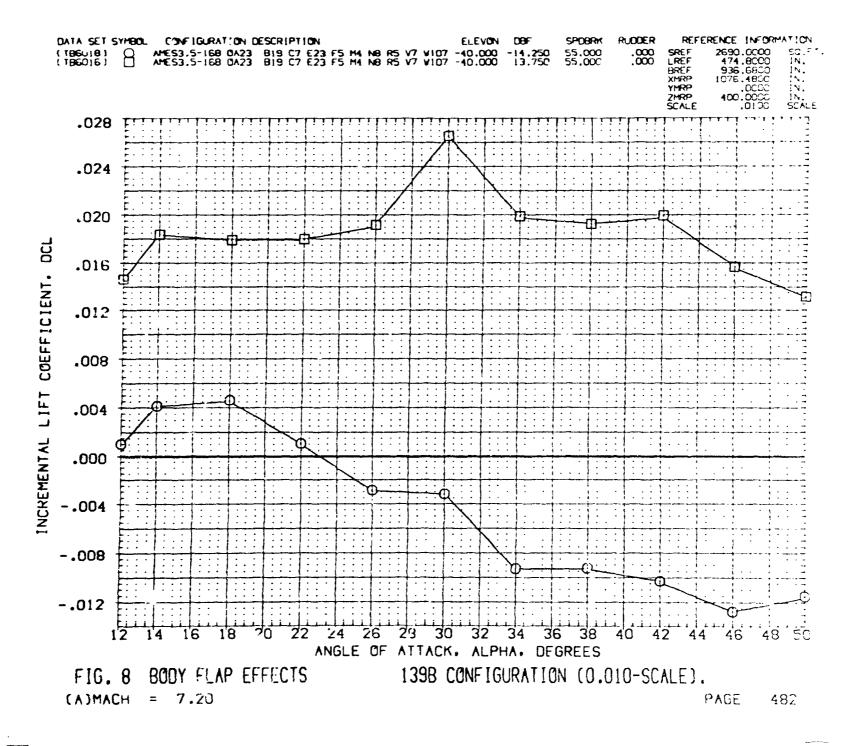










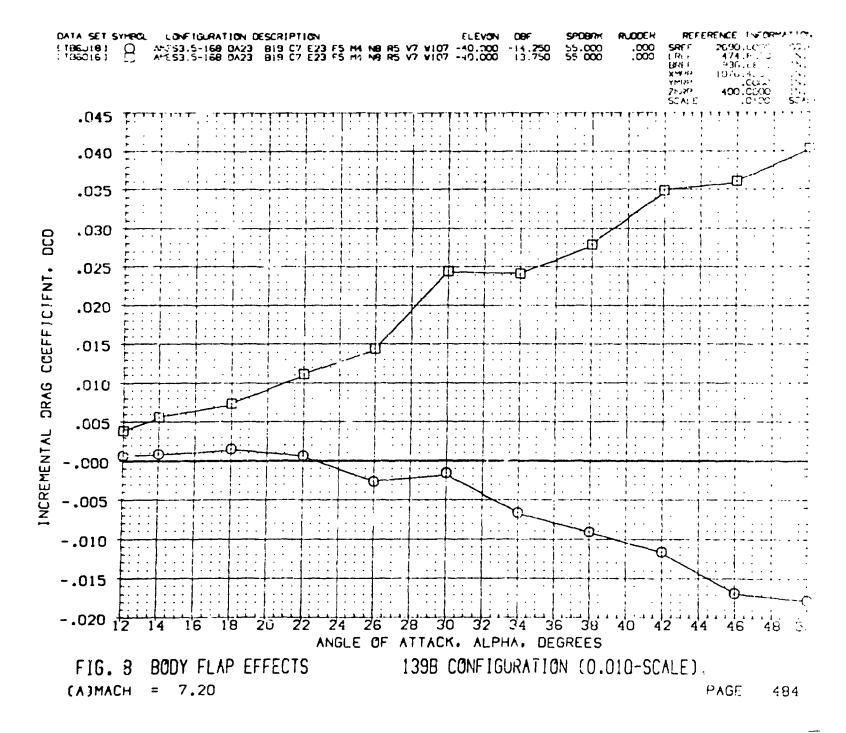


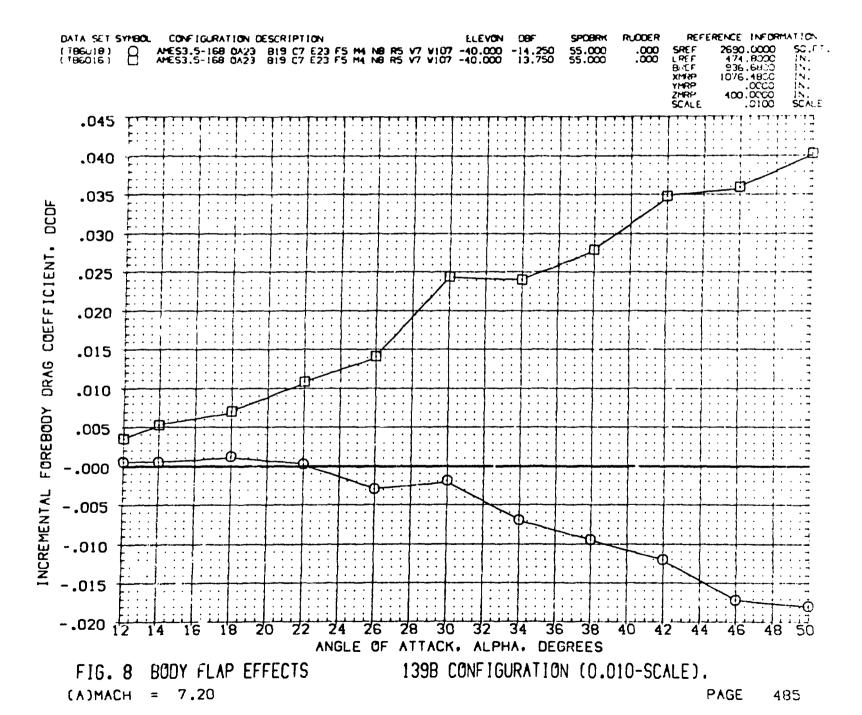
RUCCER REF LREF BREF XMRP YMRP AMES3.5-168 0A23 B19 C7 E23 F5 M4 NB R5 V7 V107 -40.000 AMES3.5-168 0A23 B19 C7 E23 F5 M4 NB R5 V7 V107 -40.000 .000 SO.FT IN. ZMRP SCALE .040 TT .035 S .030 FCACE COEFFICIENT. .025 .320 .015 .010 INCREMENTAL MORMAL .005 .000 -.005 -.010 -.015 -.020 ANGLE OF ATTACK. ALPHA. DEGREES BODY FLAP EFFECTS 139B CONFIGURATION (0.010-SCALE).

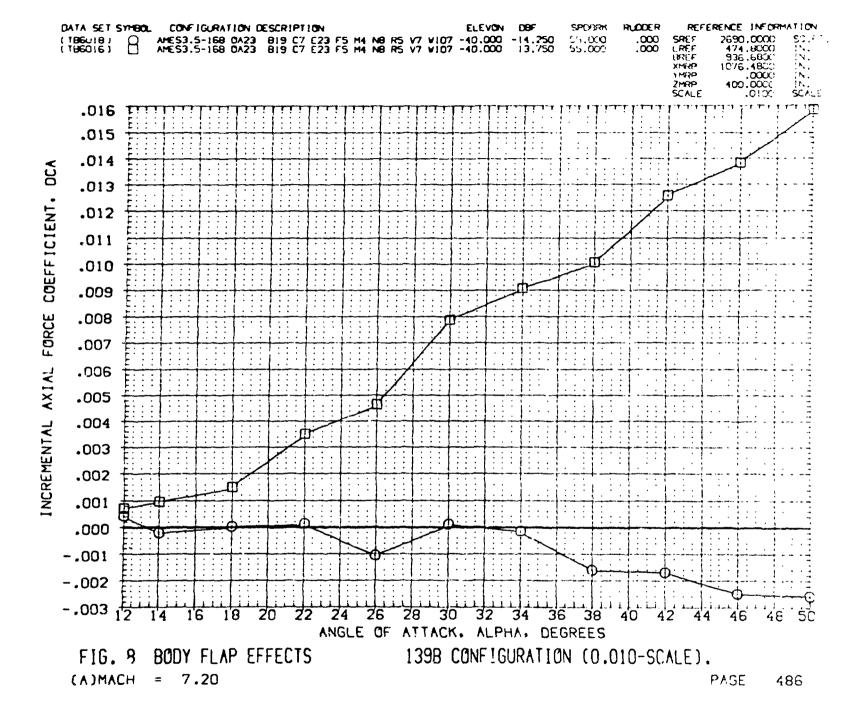
PAGE

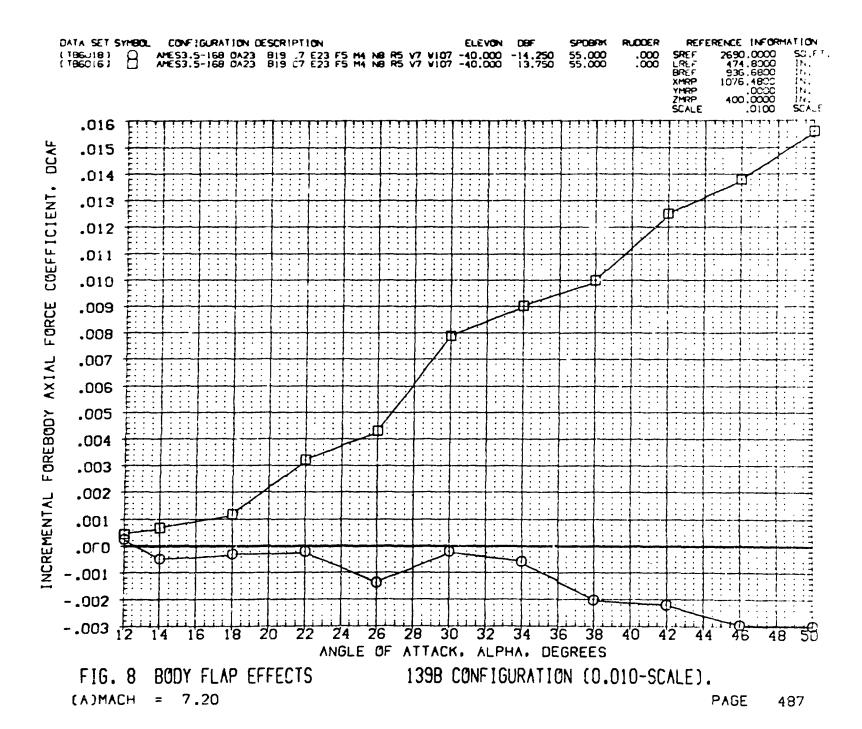
483

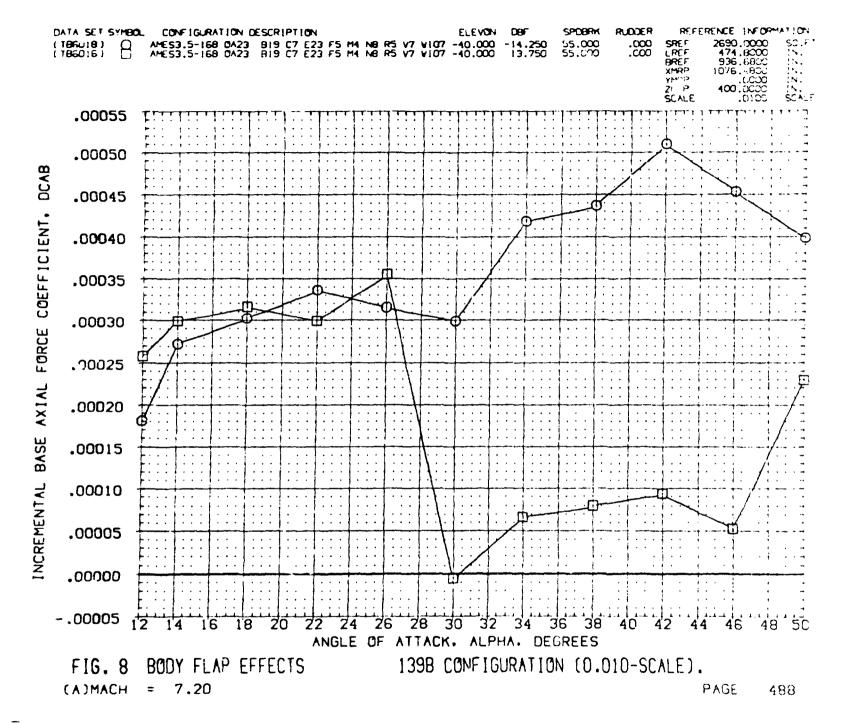
C/.3MACH = 7.20

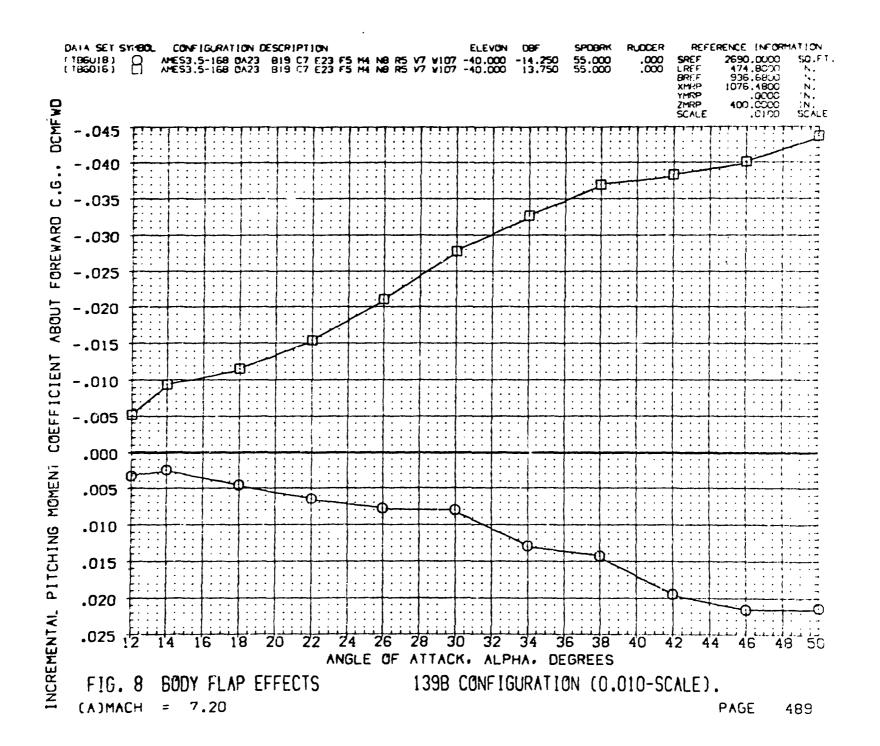


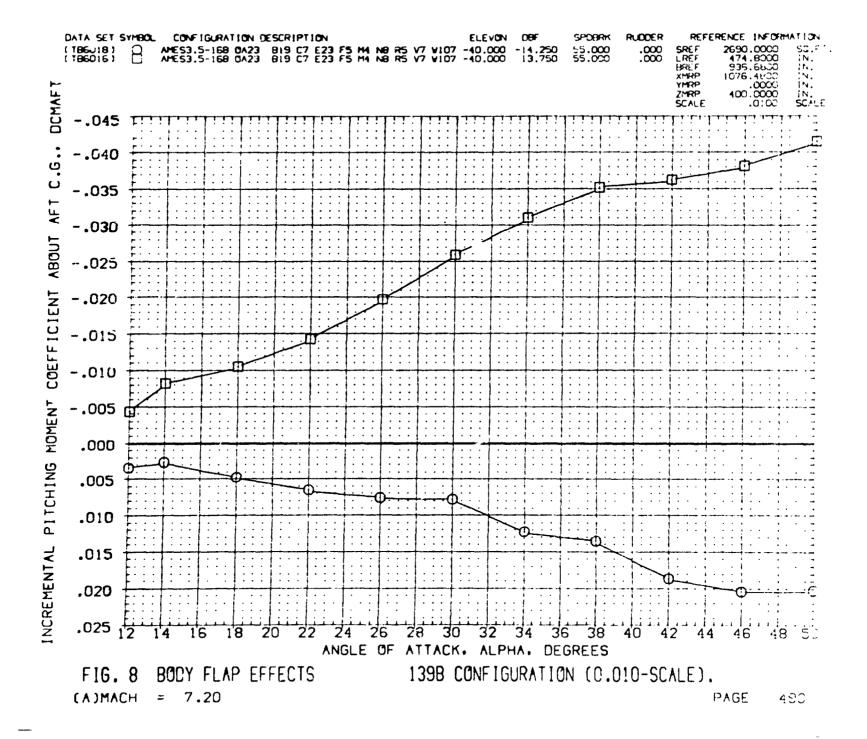


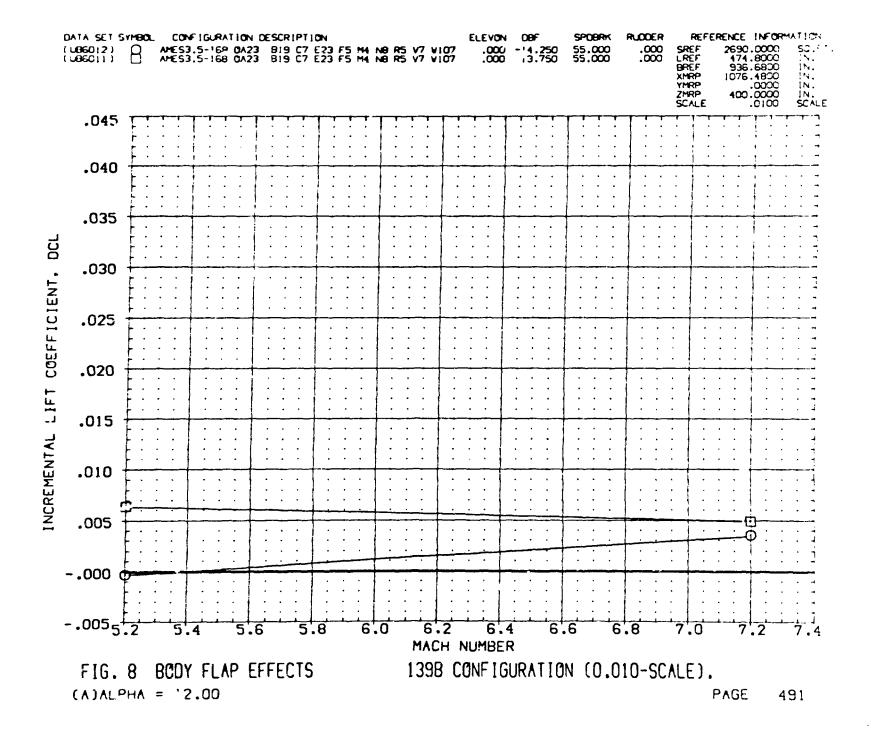


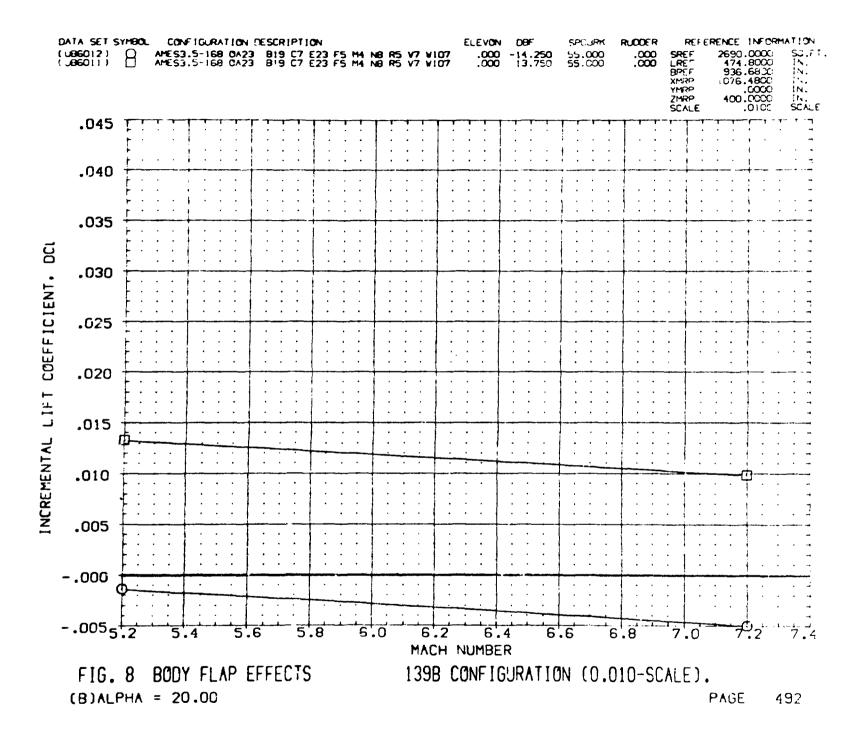






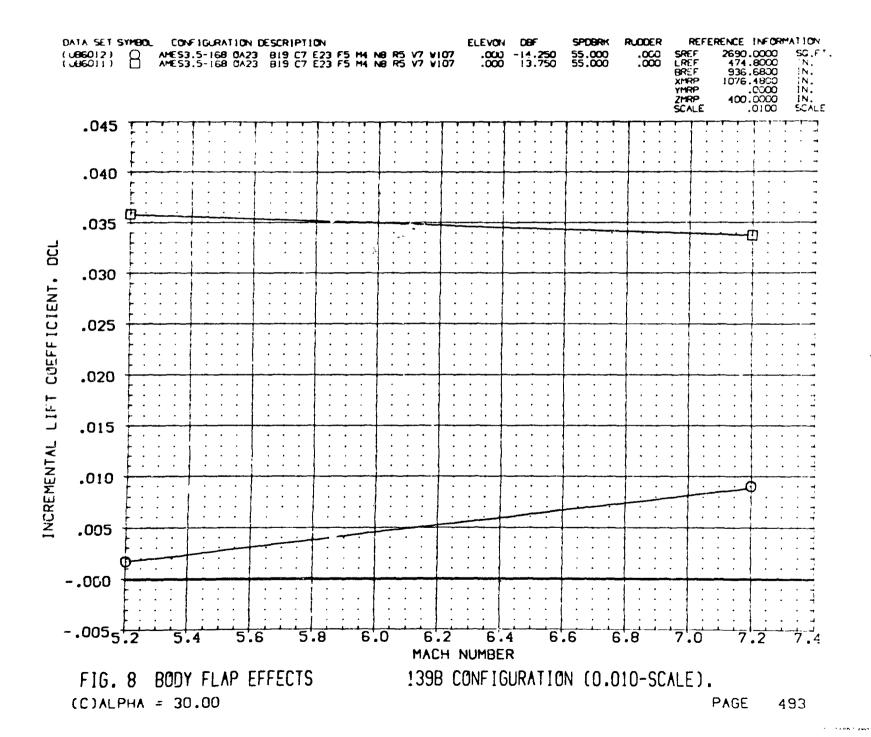


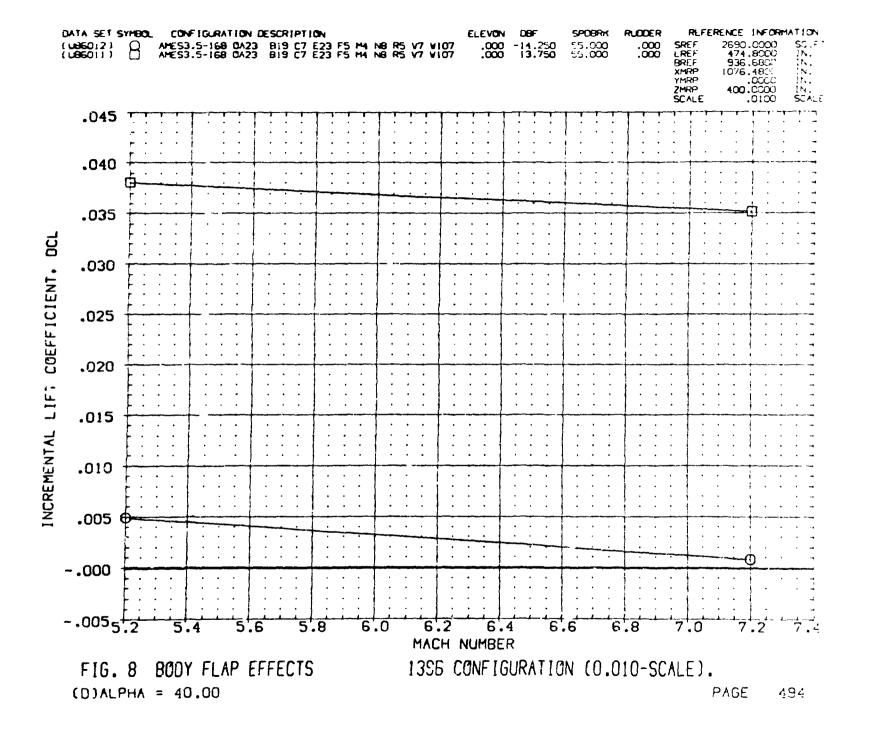


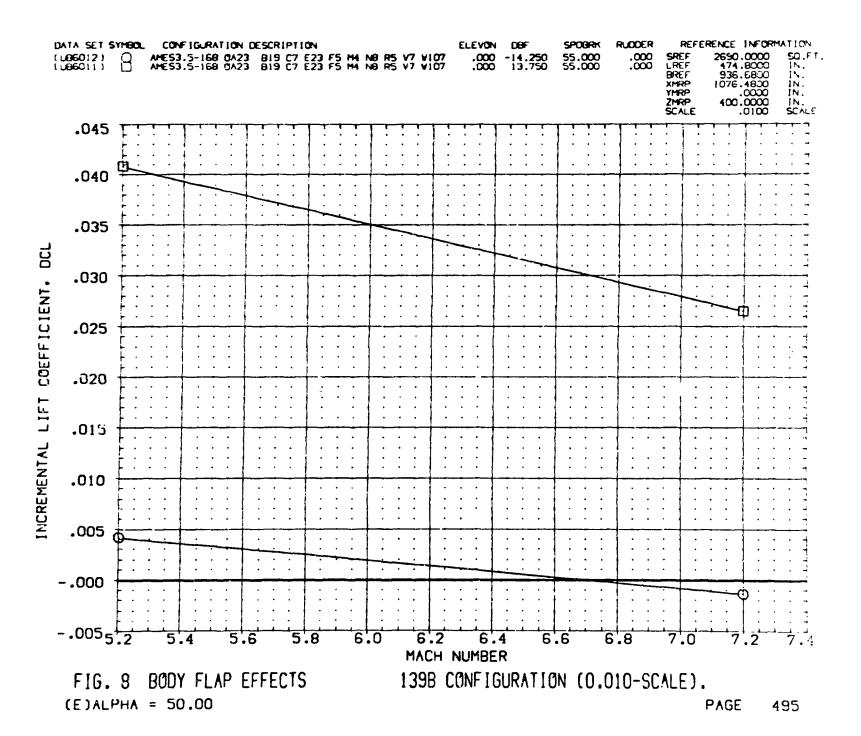


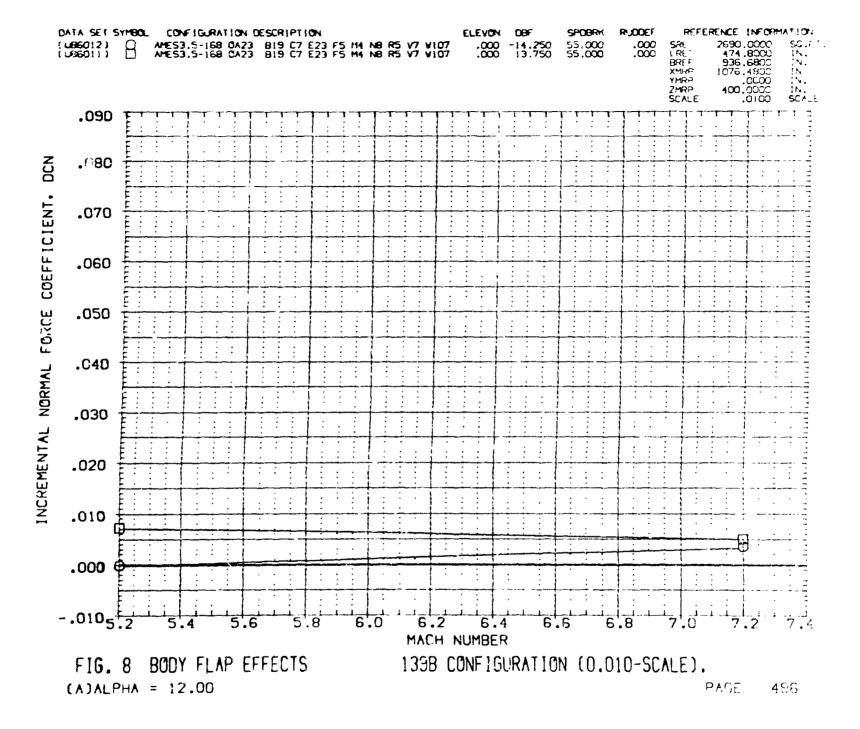
the other control of the control of

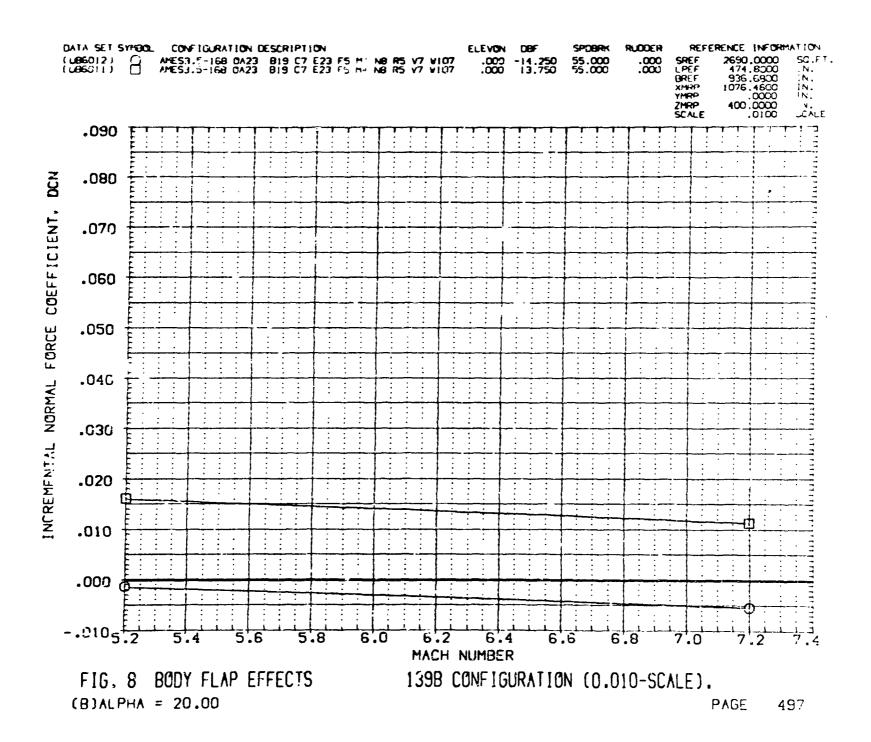
No. 10 No

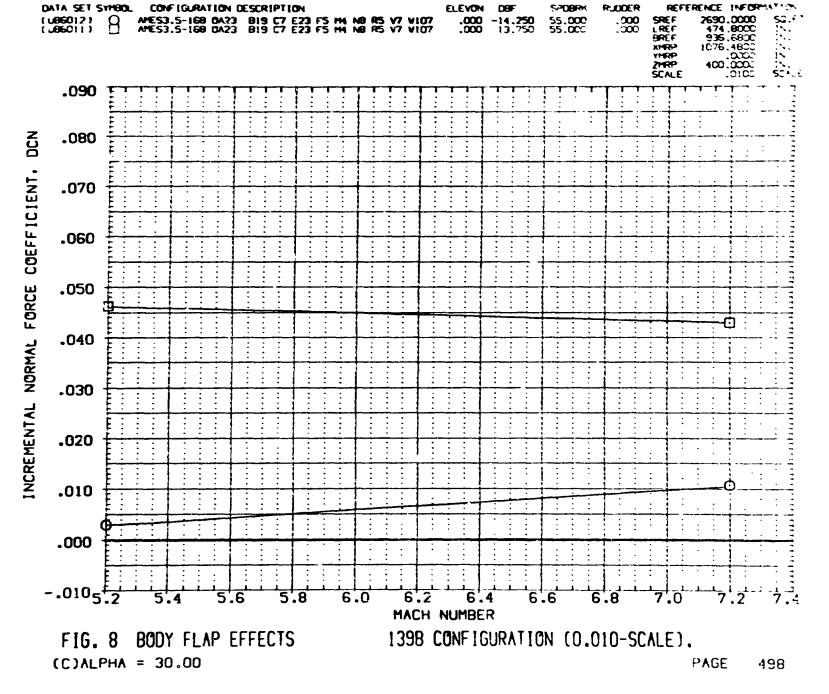




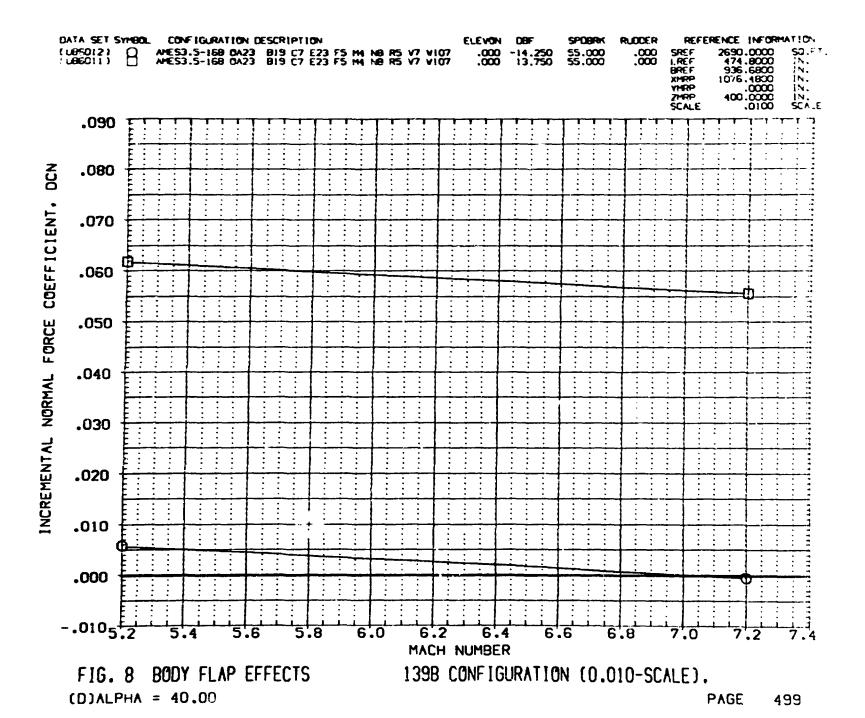


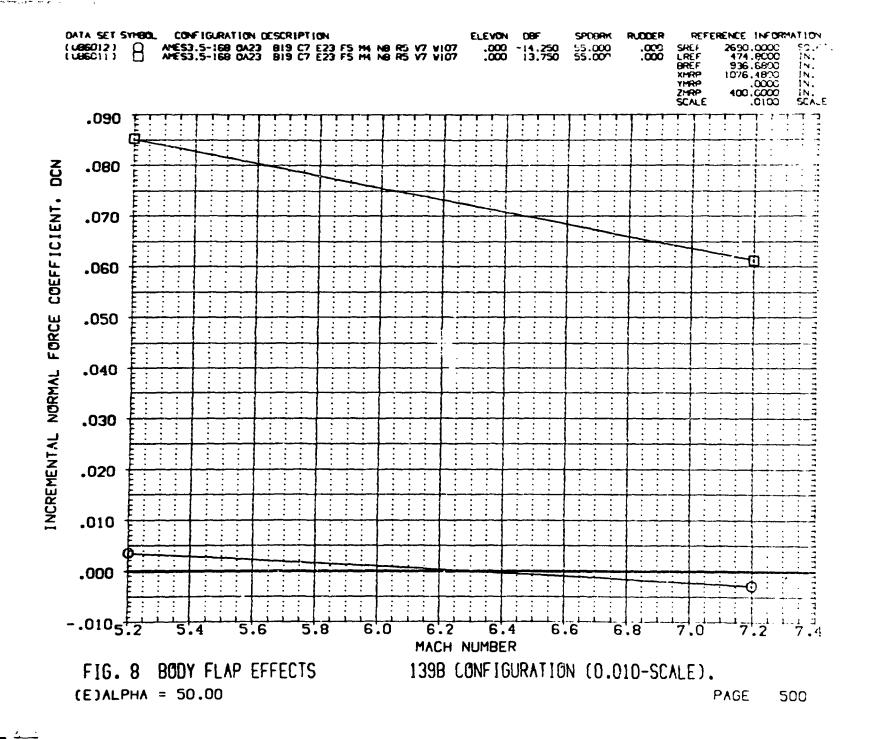


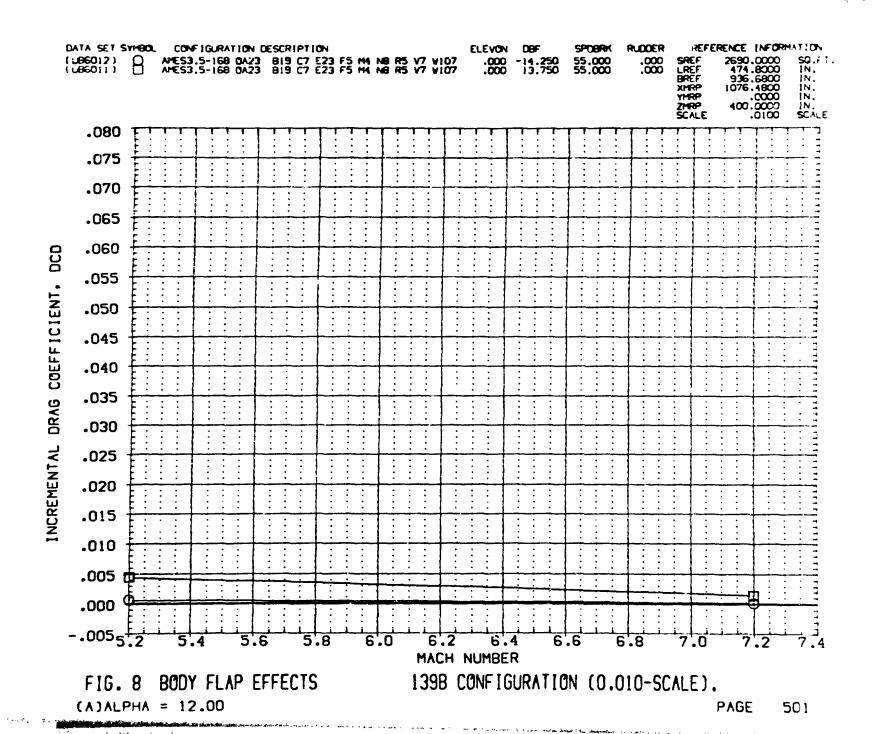


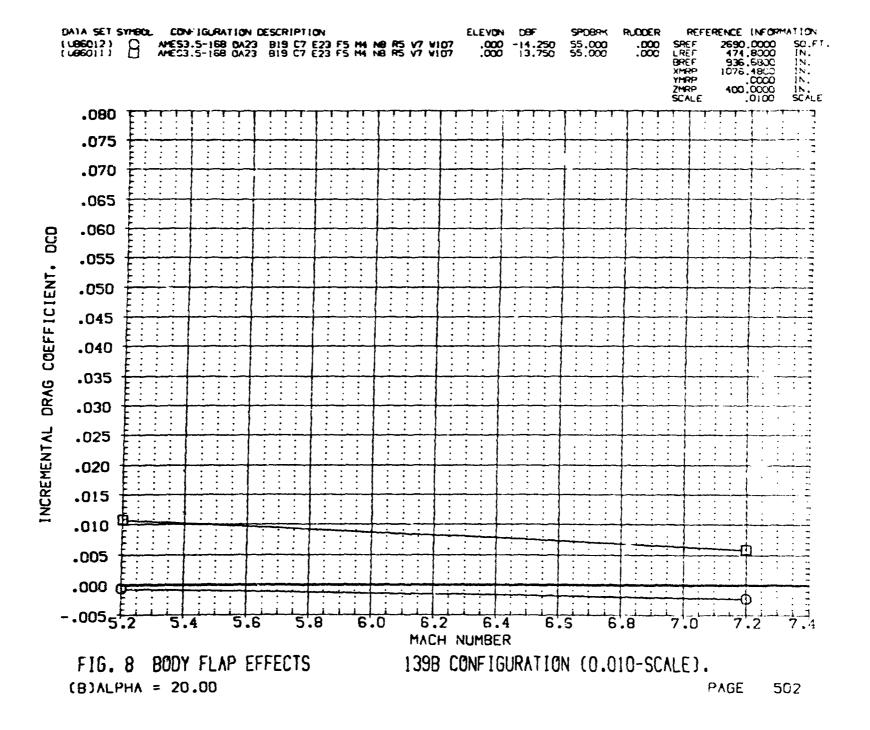


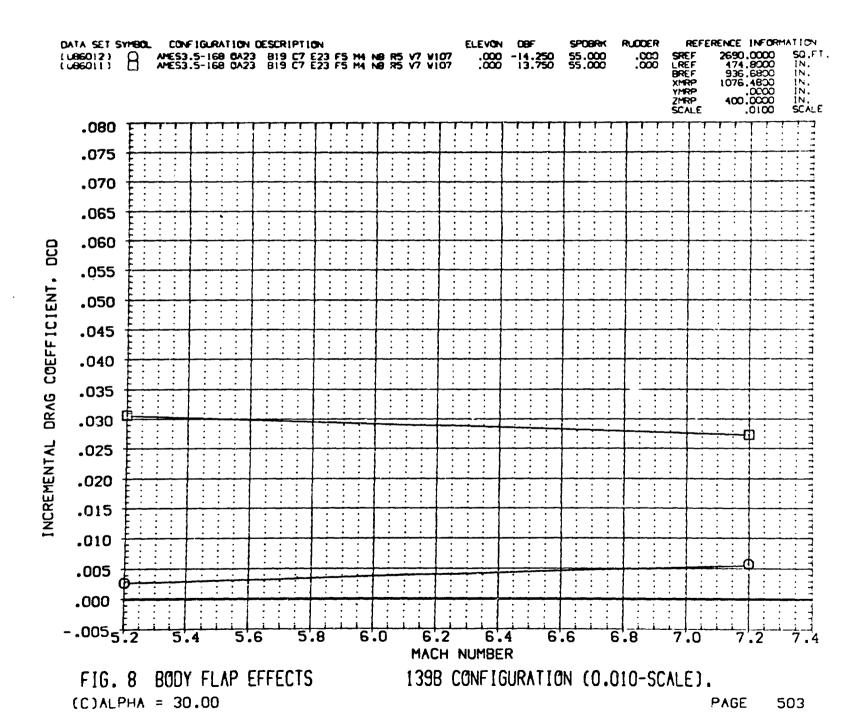
**+** + +



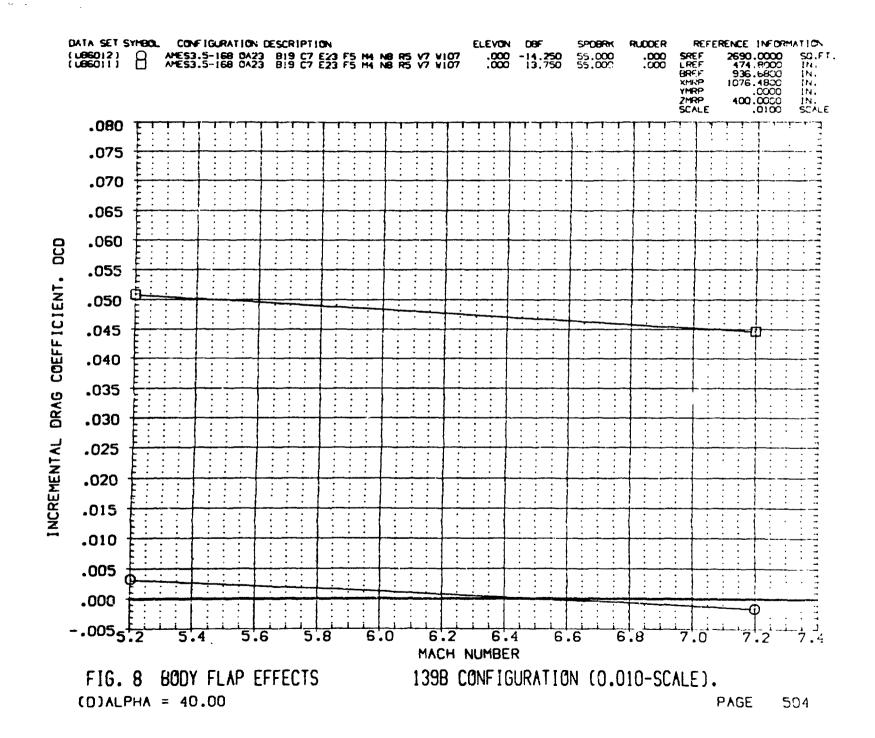


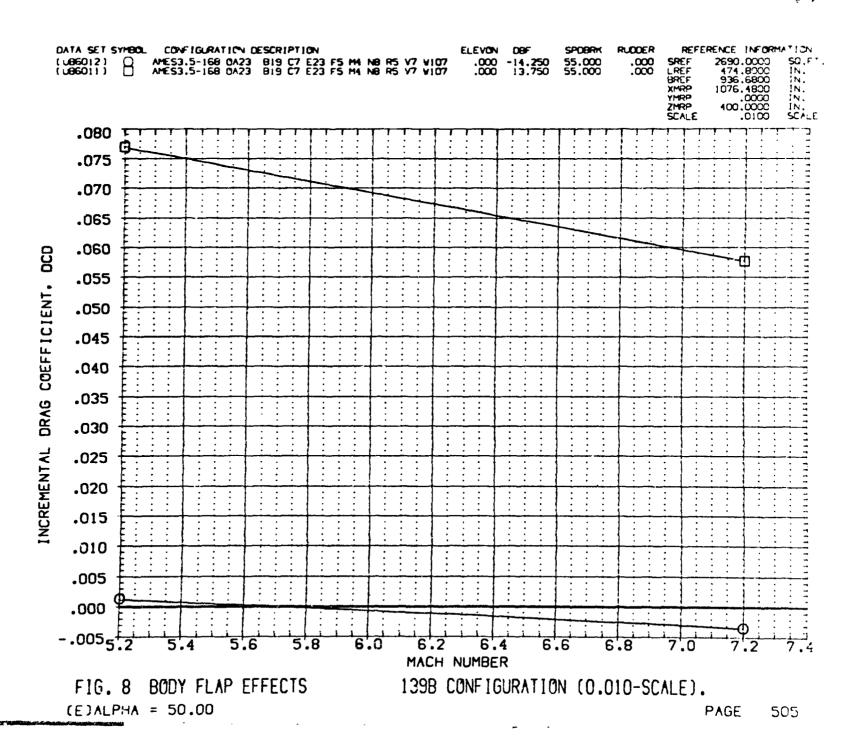


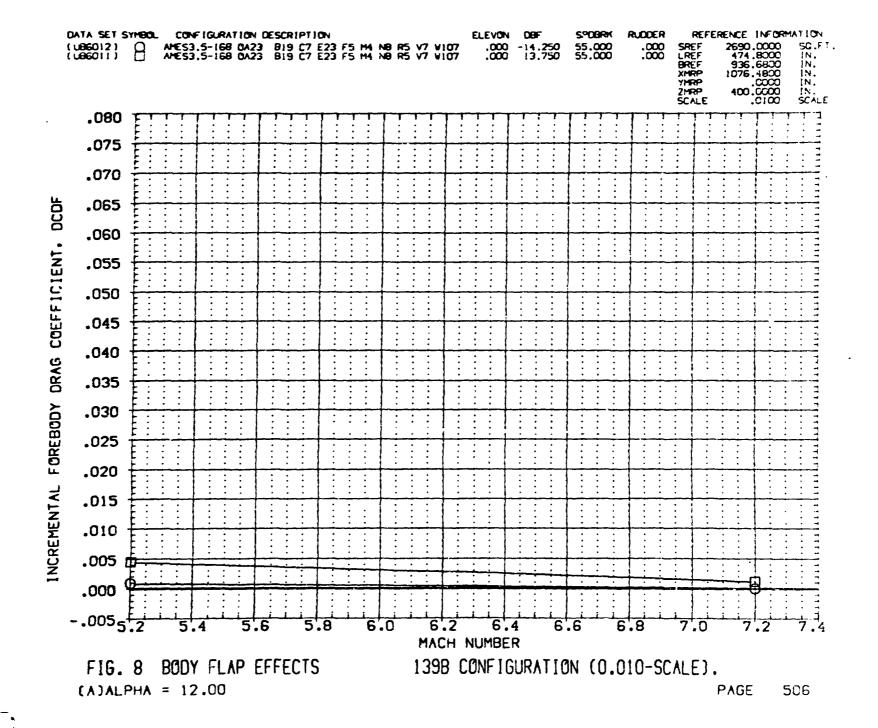




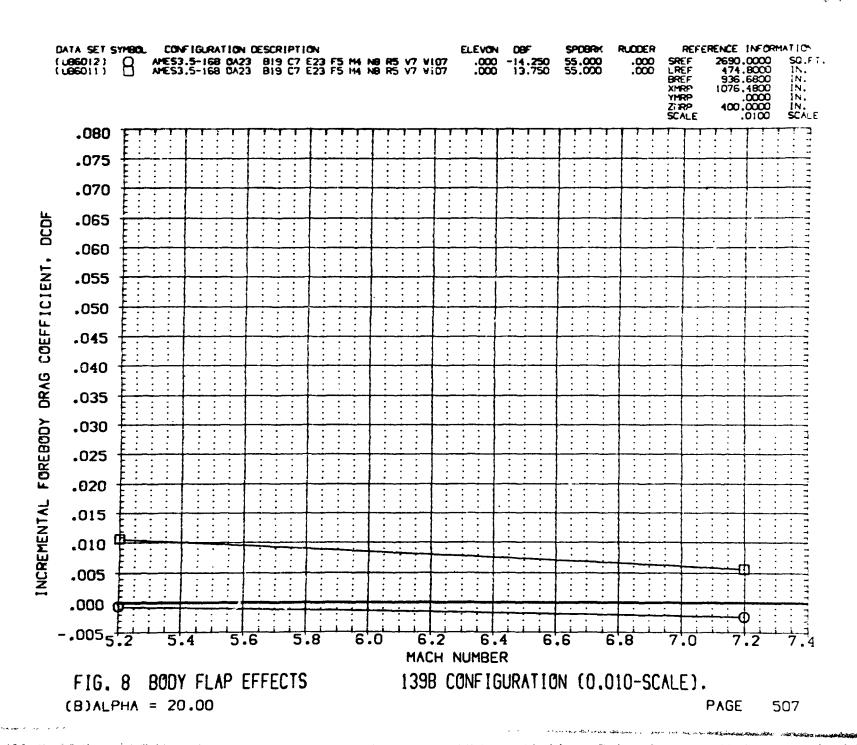
A \*

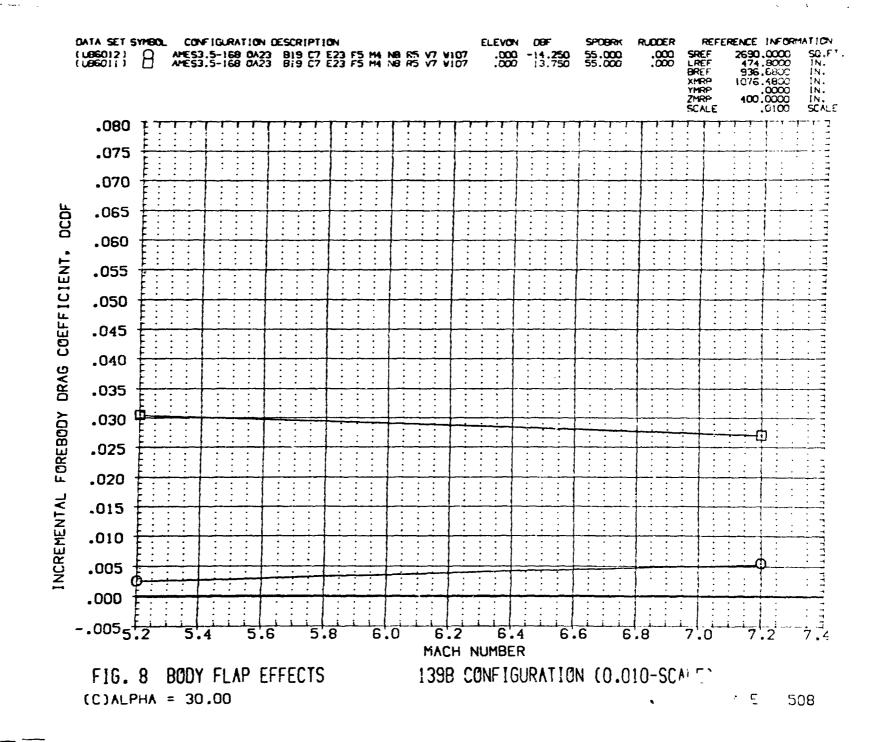


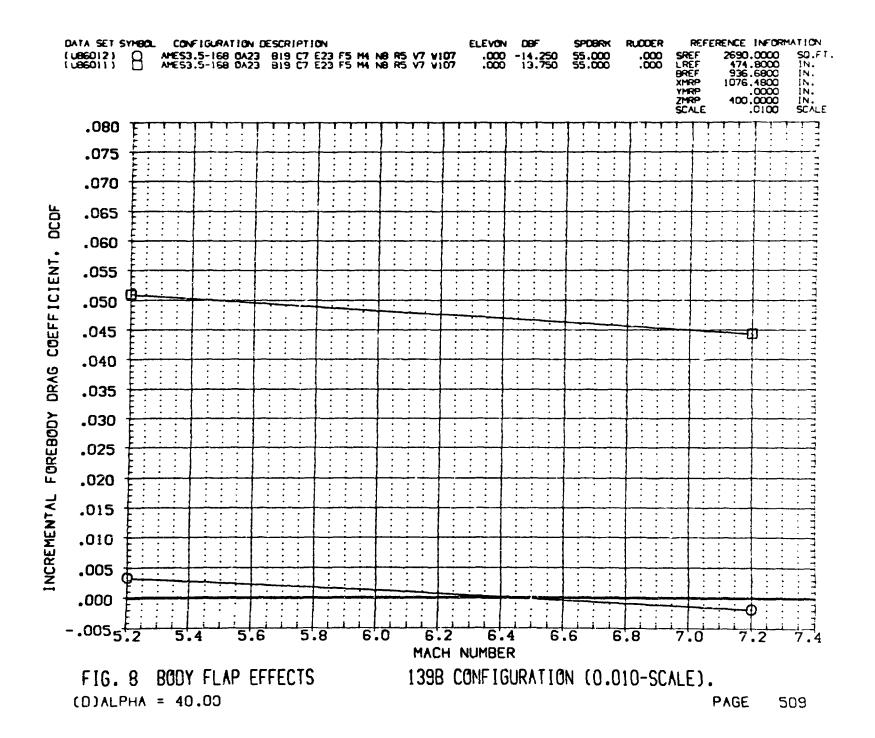


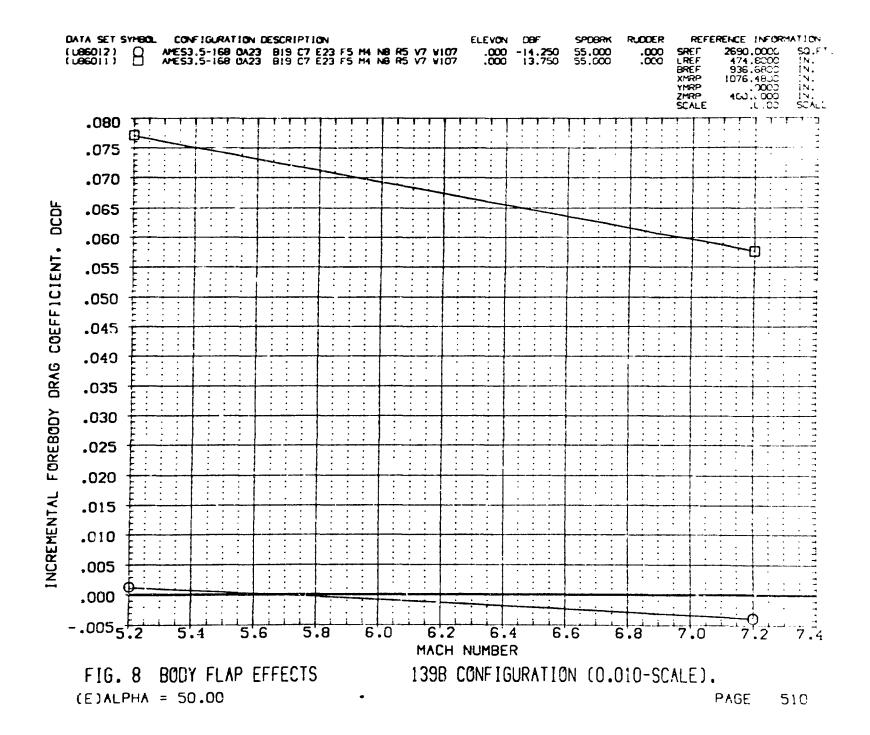




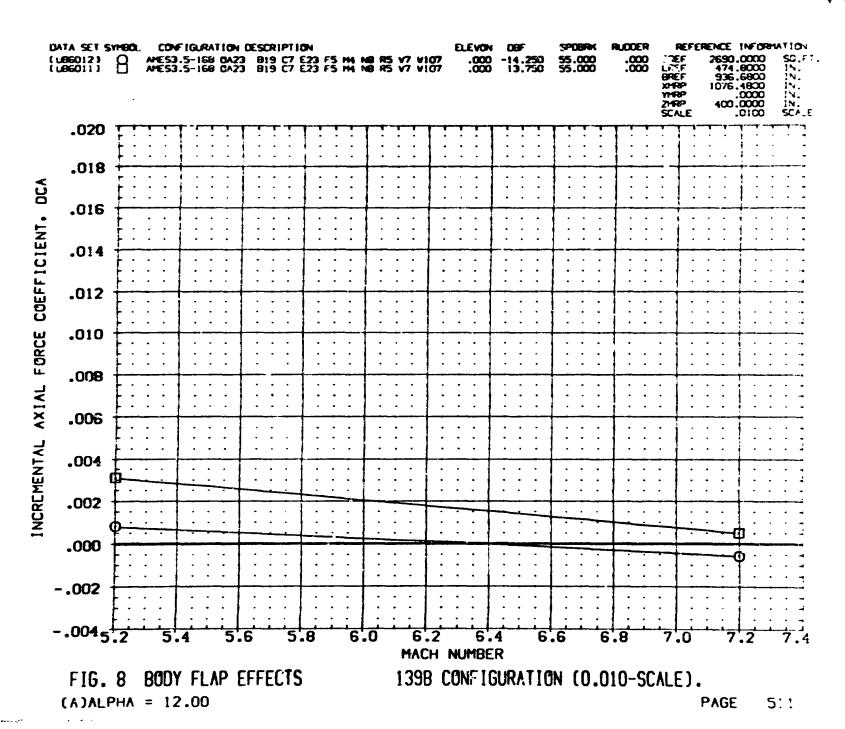


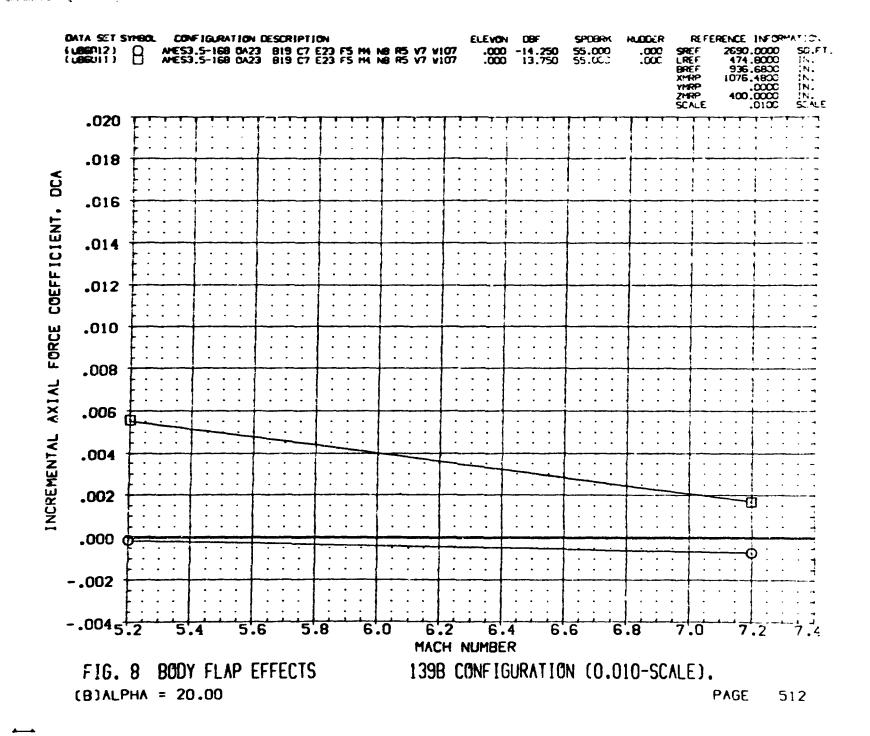




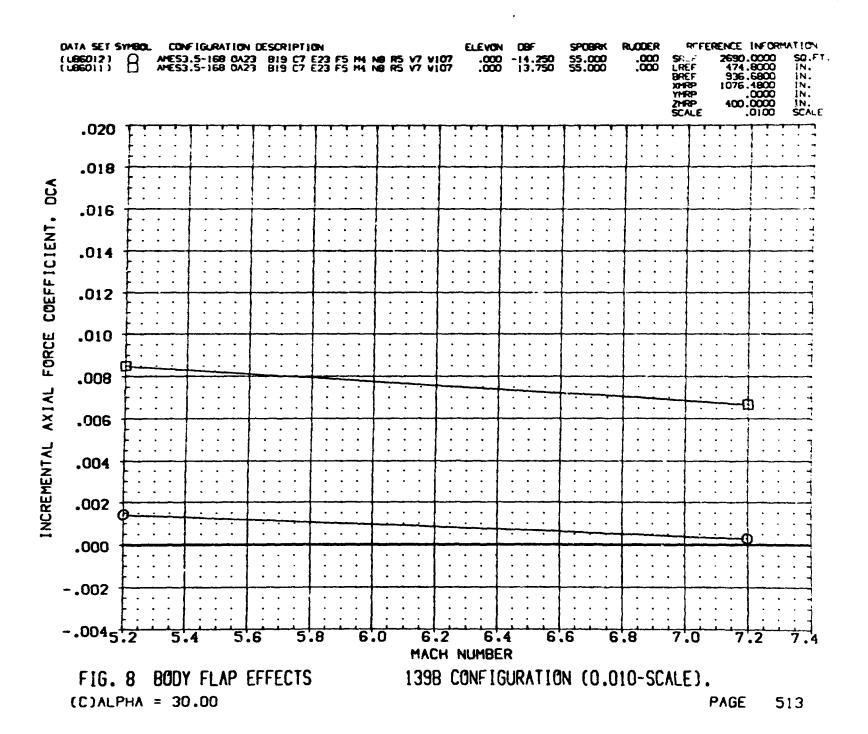




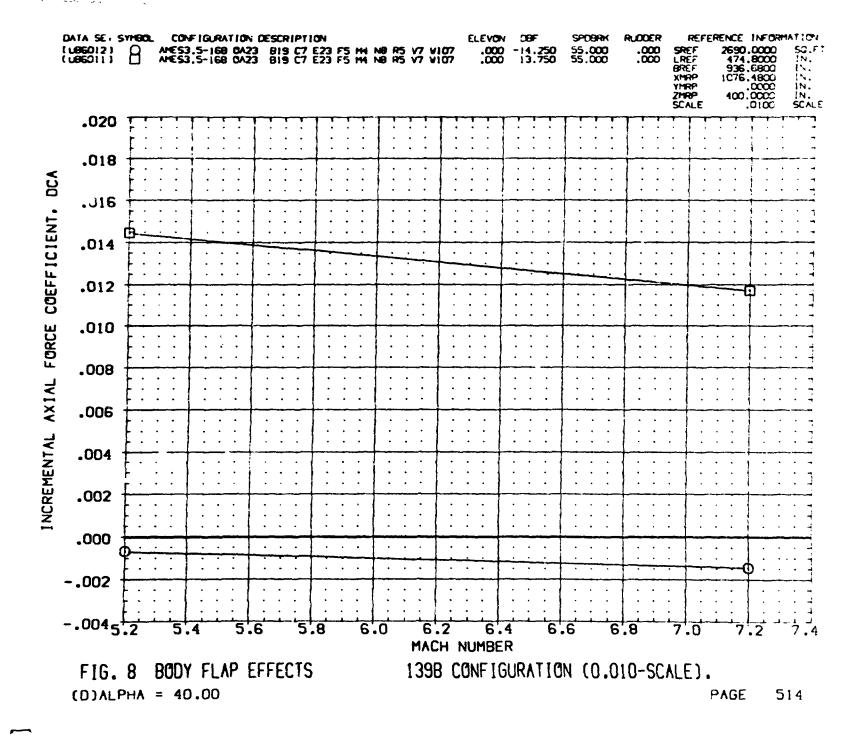








1 ~ 4



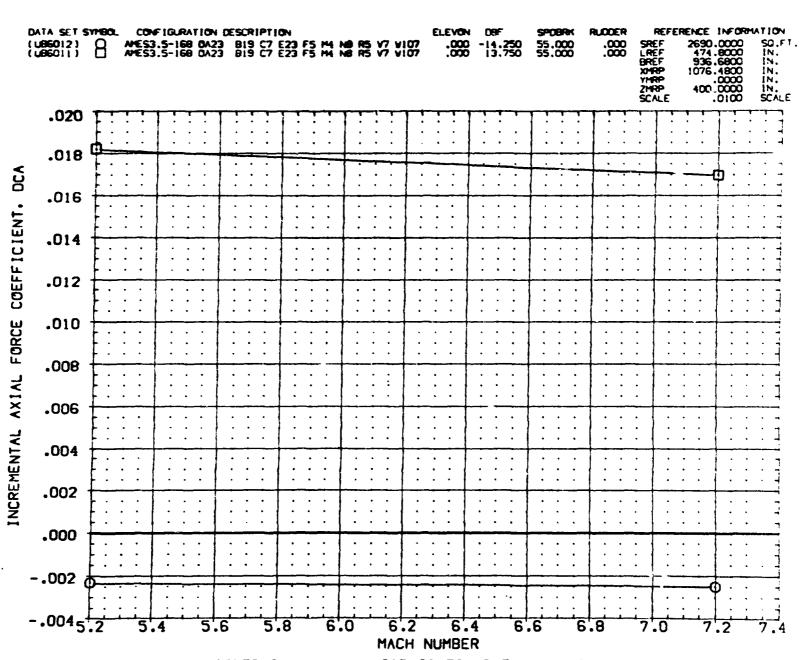
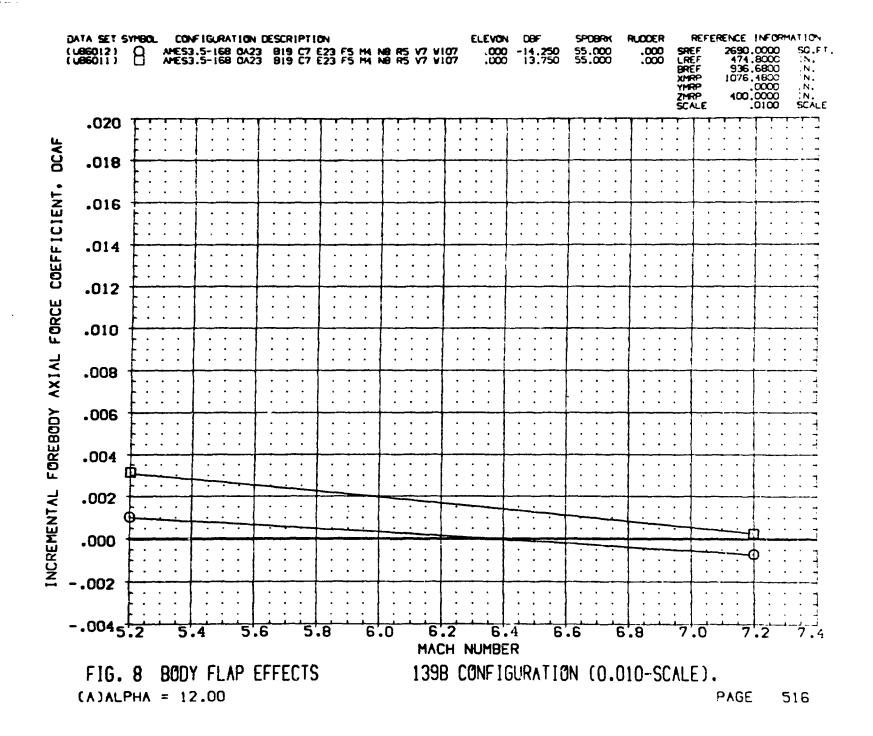


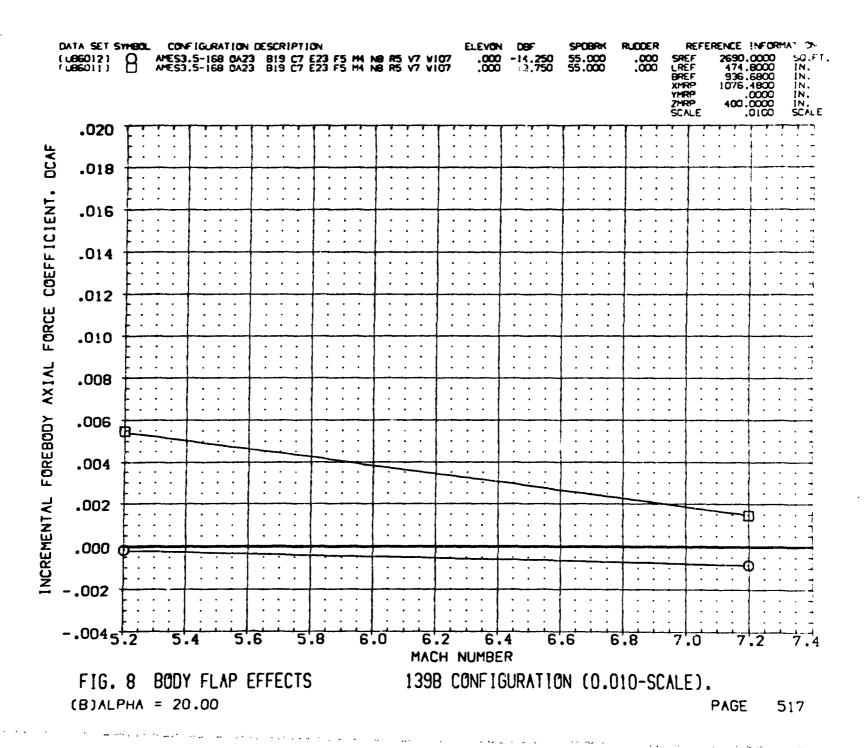
FIG. 8 BODY FLAP EFFECTS
(E)ALPHA = 50.00

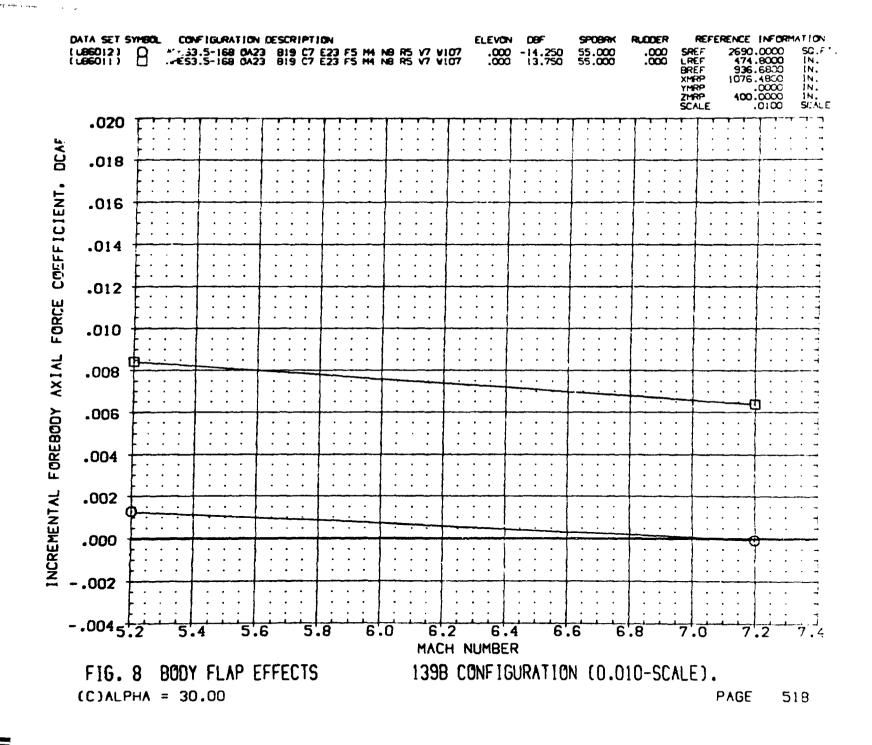
139B CONFIGURATION (0.010-SCALE).

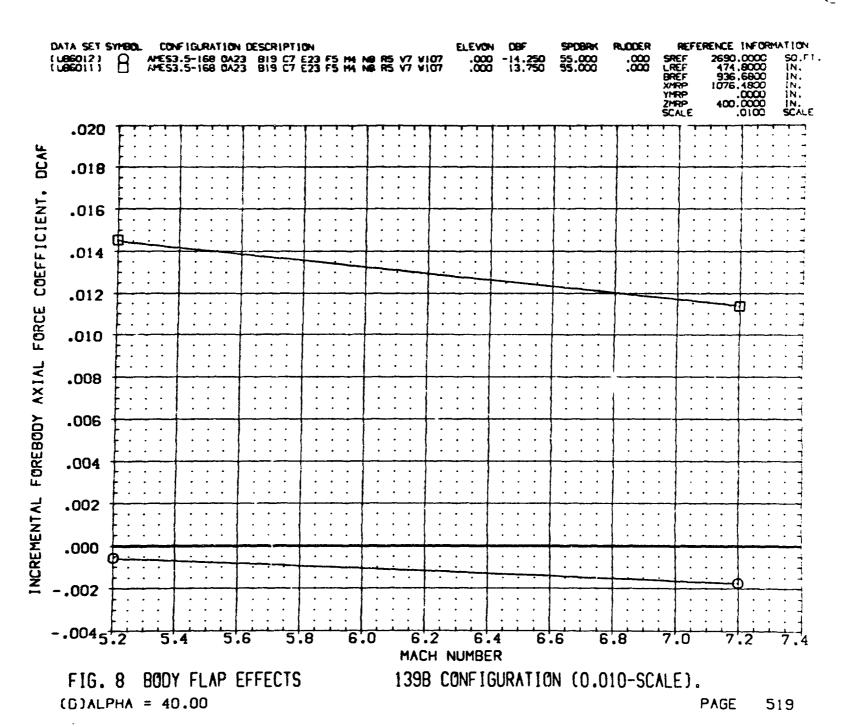
PAGE 515

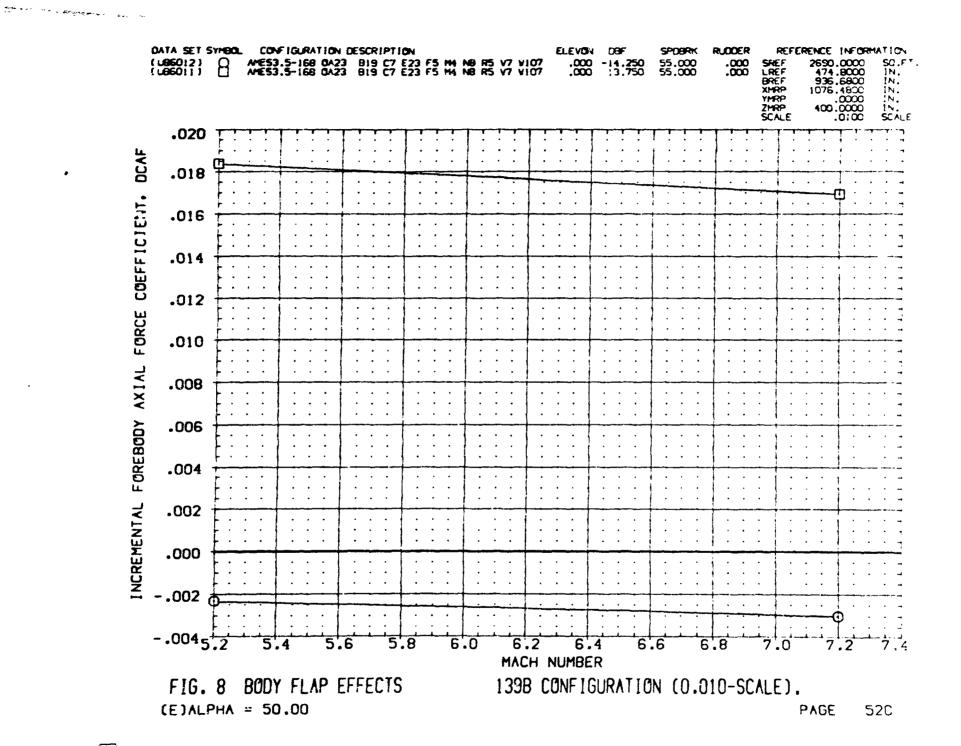


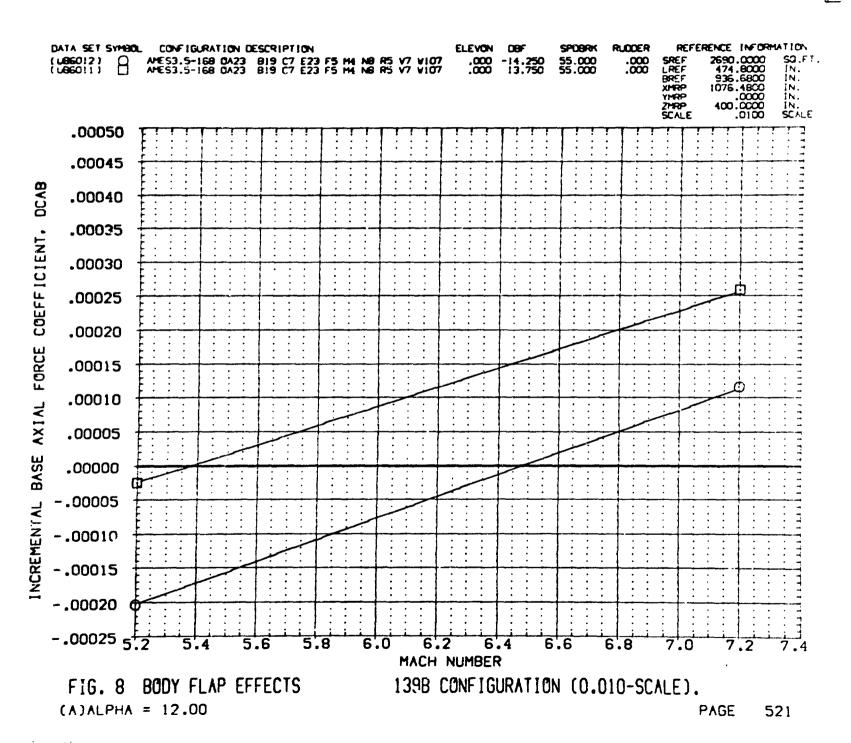


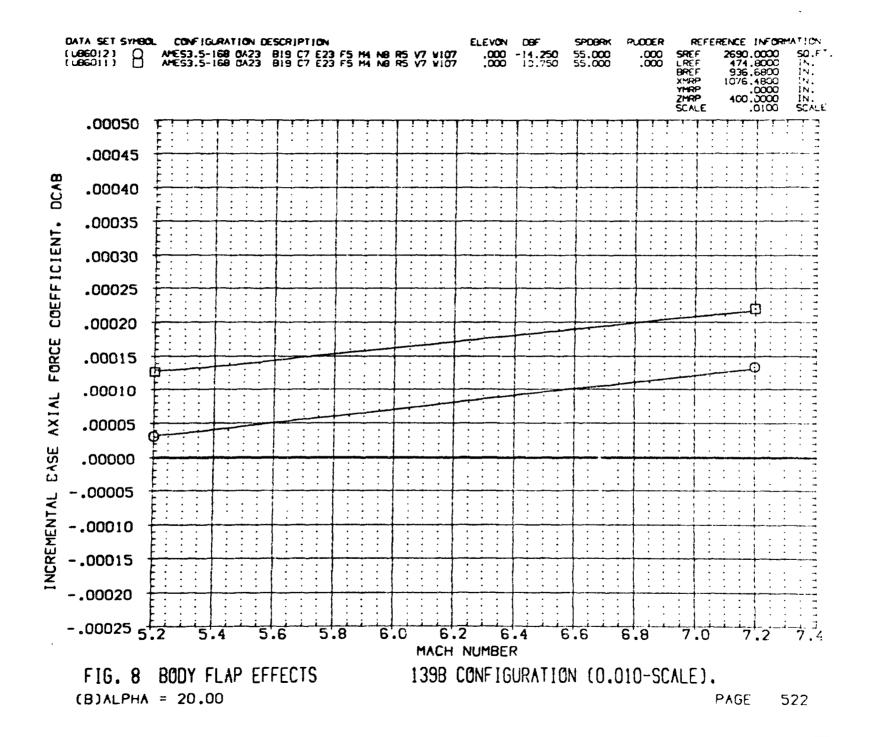




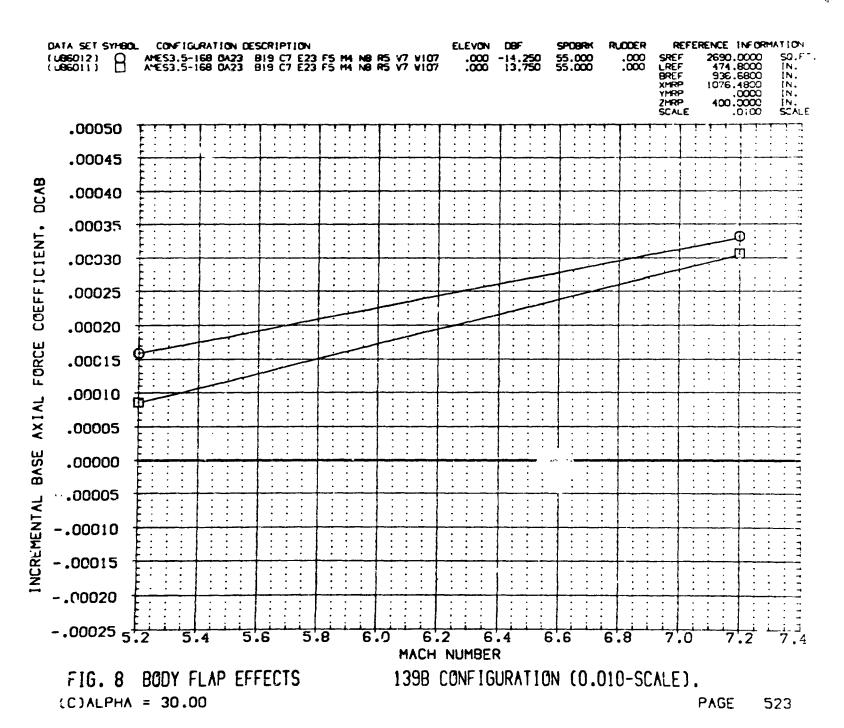


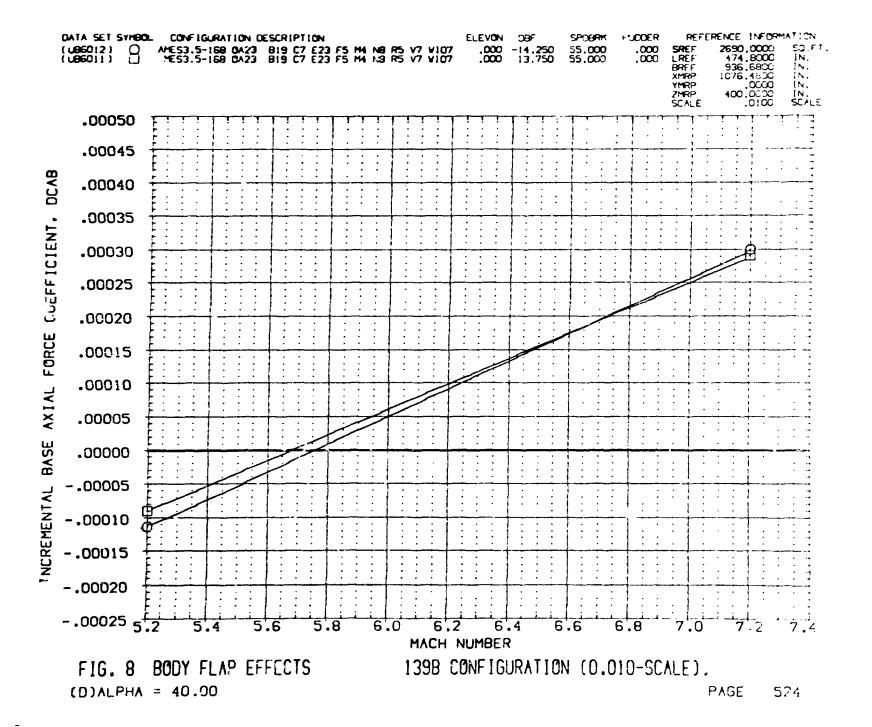




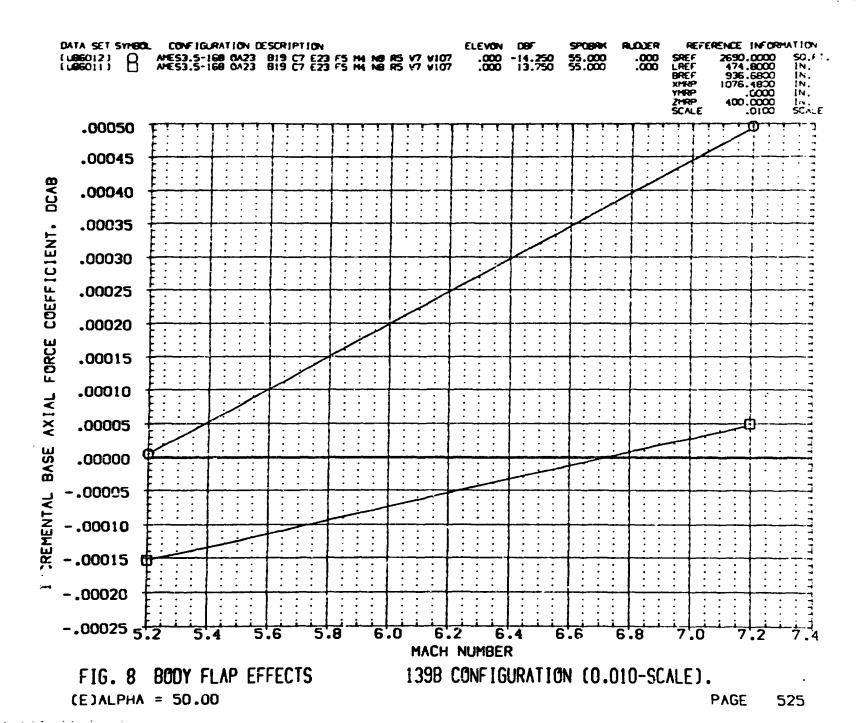


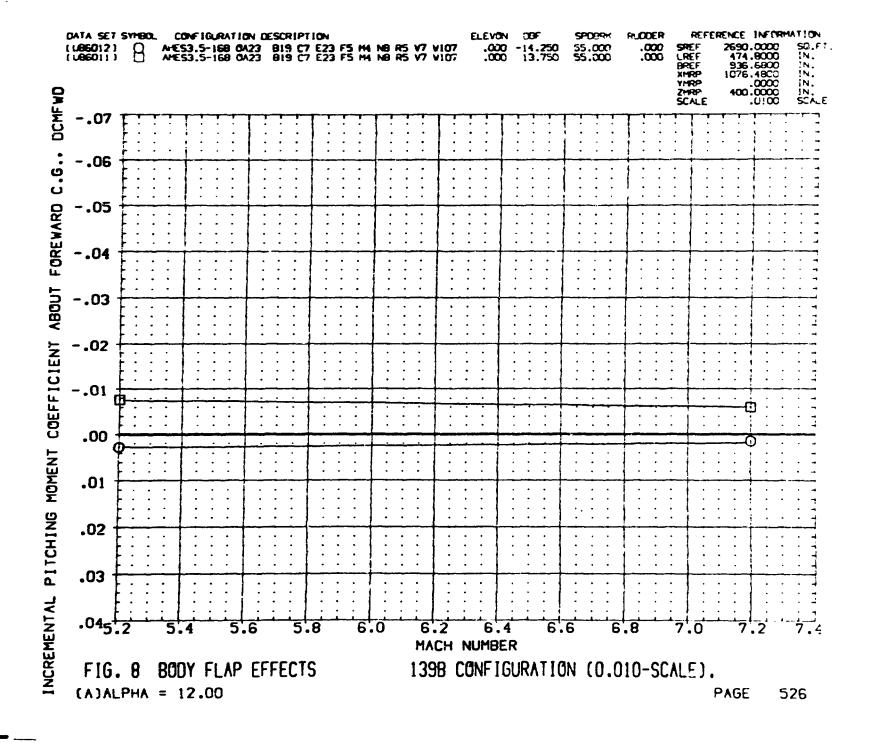


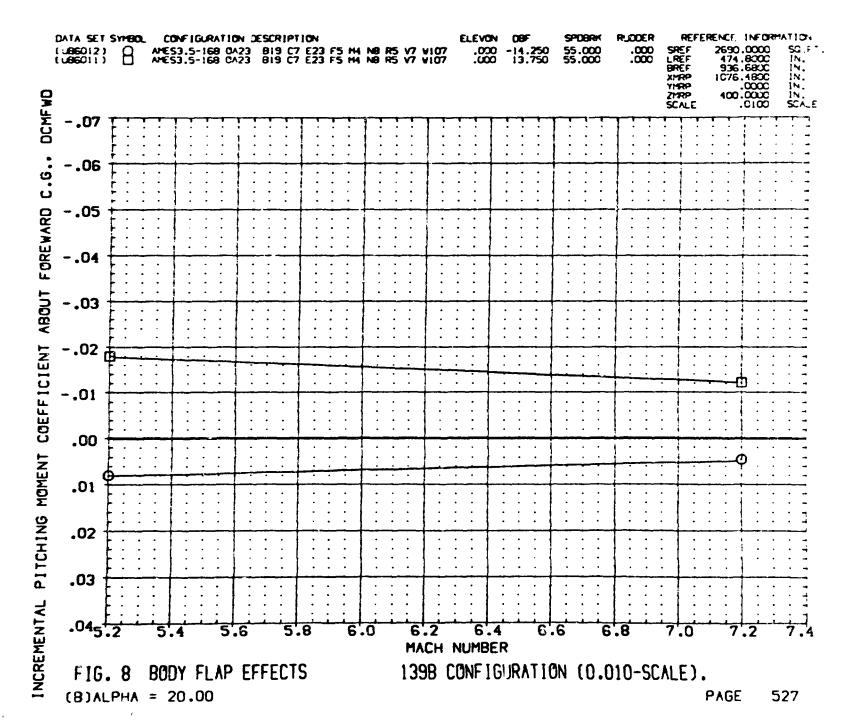




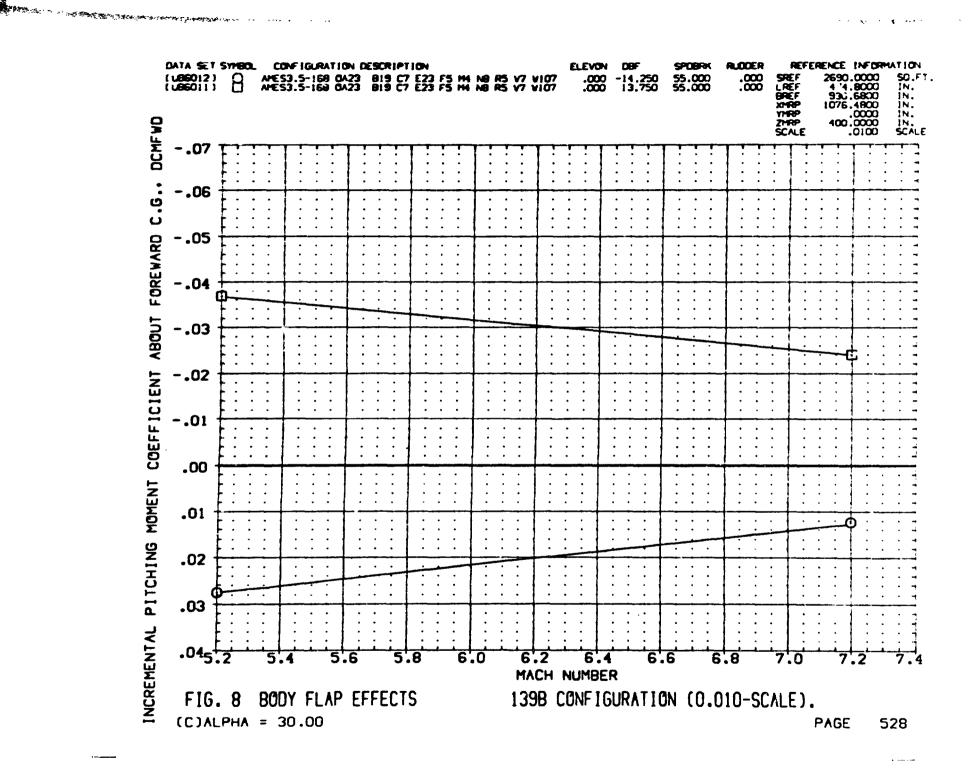
mand and a second

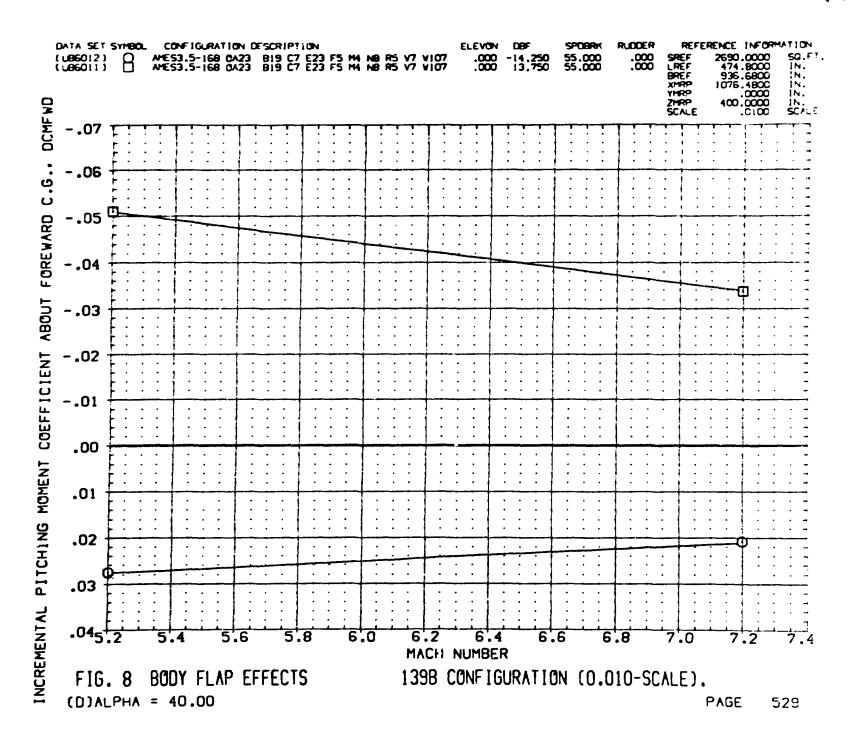




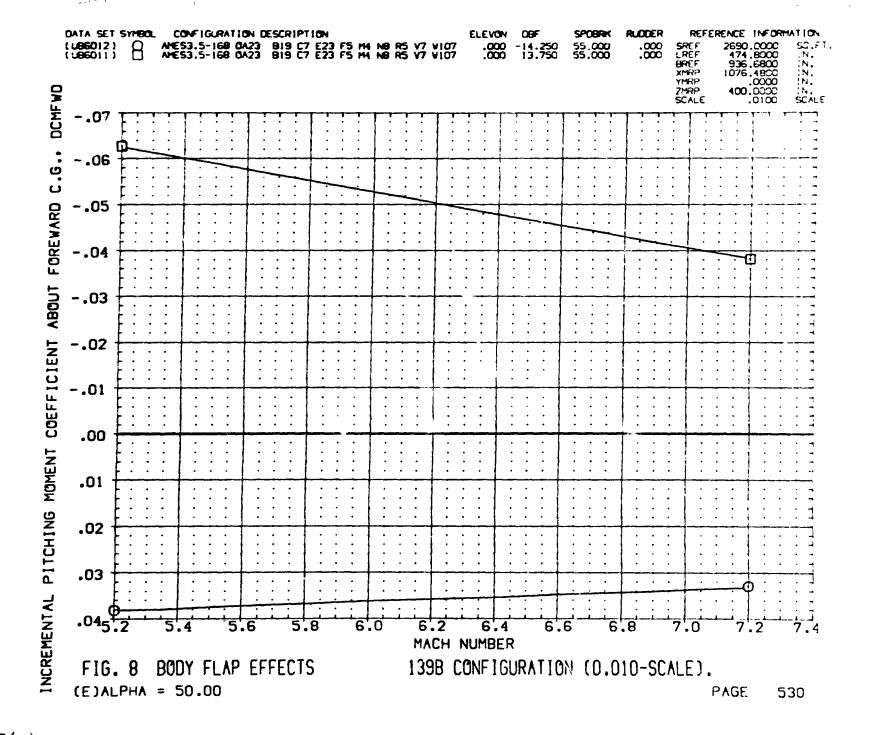


\* \*

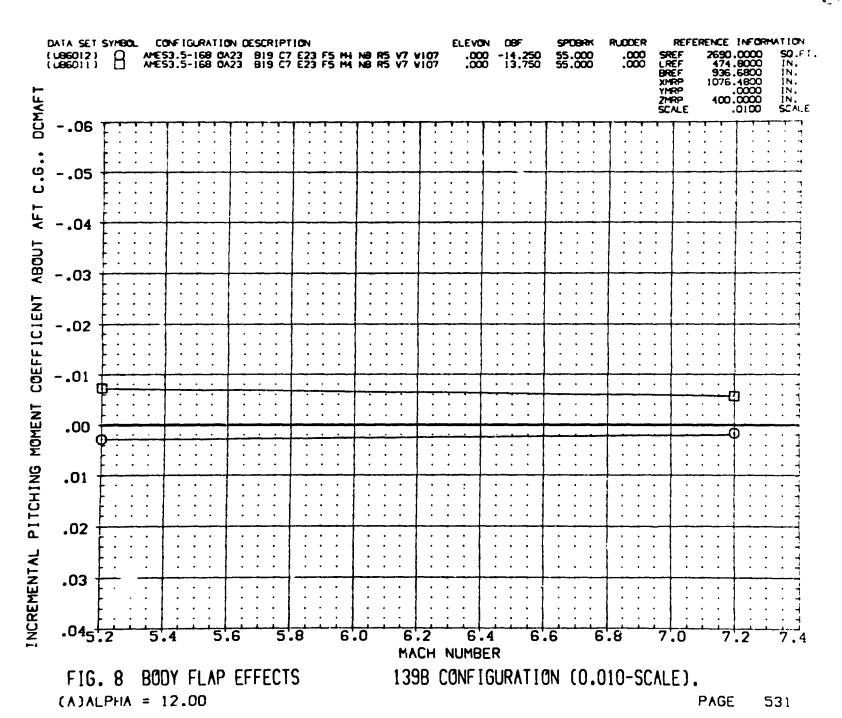




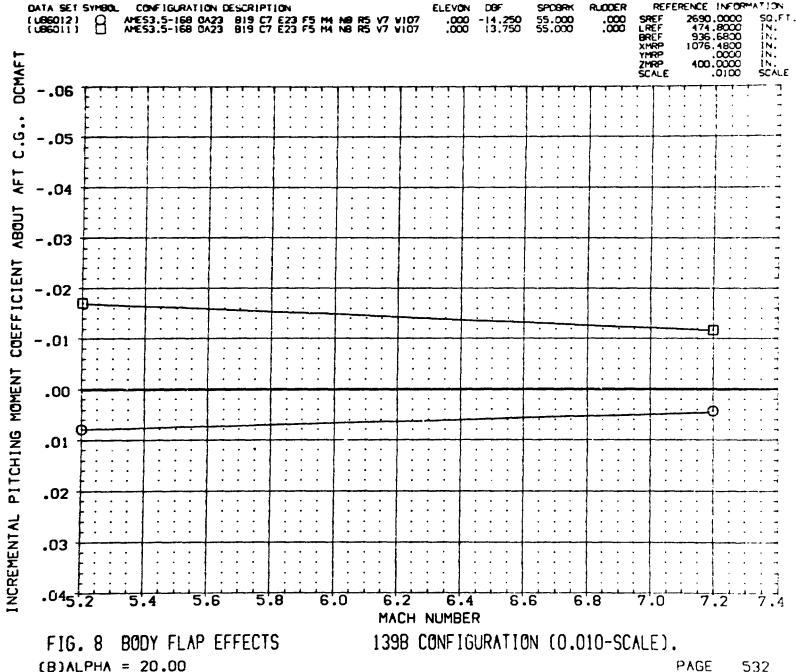
\$ '\$ \$ '}



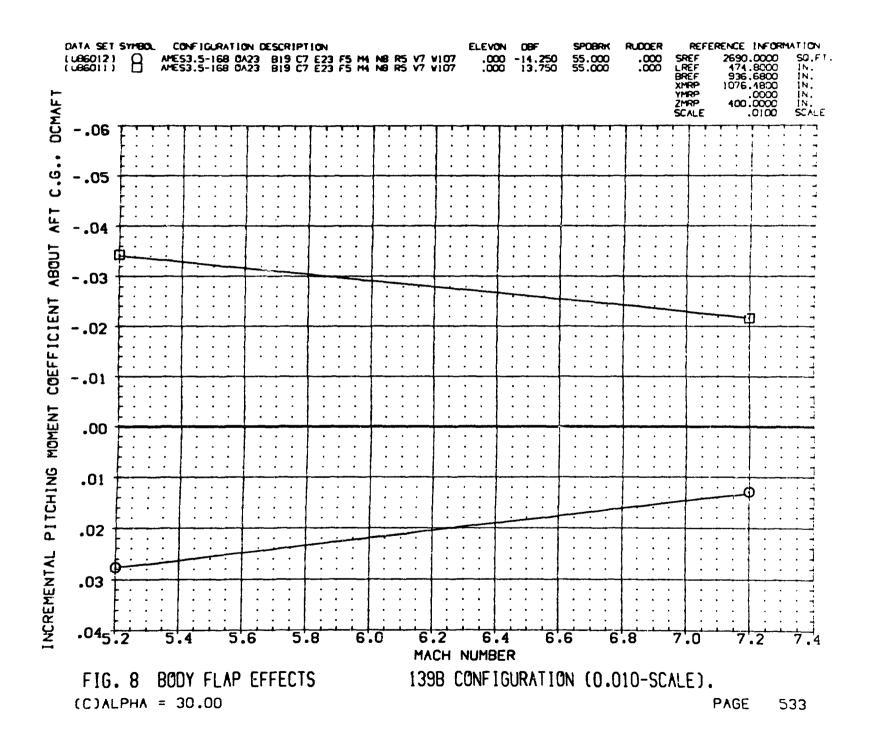
~ + - \* 4家 194

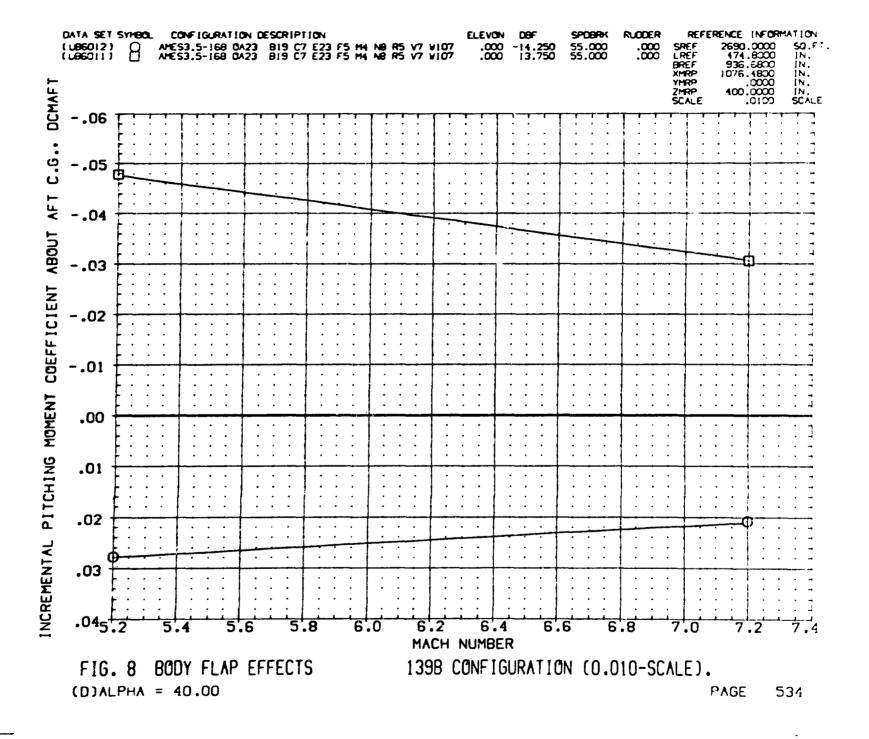


ويافر فسيدس فكالكيكري أأم أوسيا المستطاعة

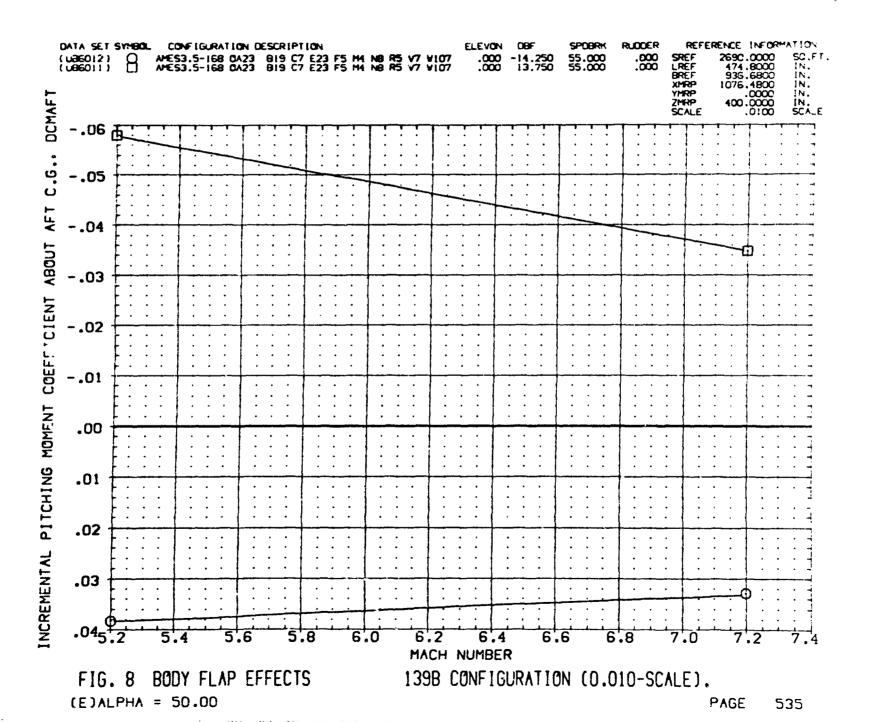


(B)ALPHA = 20.00

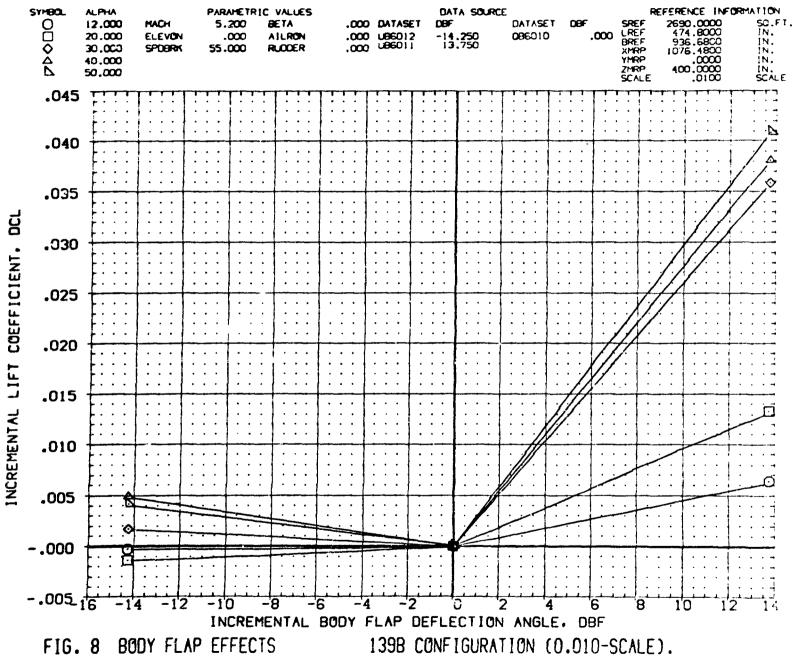


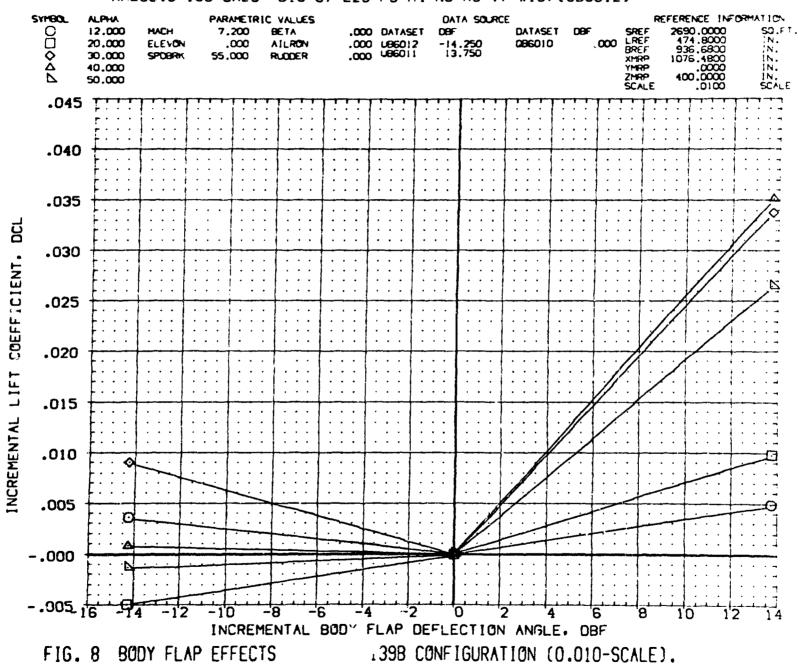


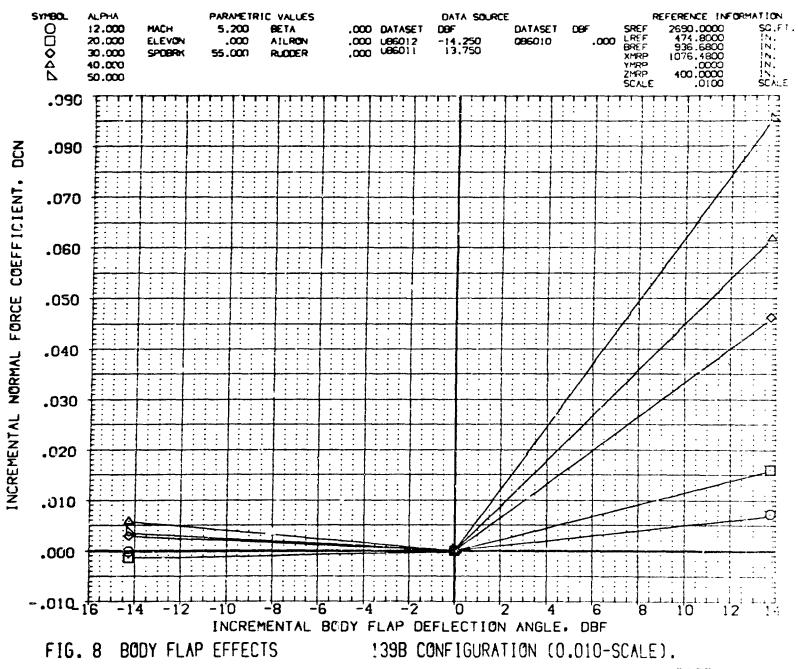
Total and the same and a second

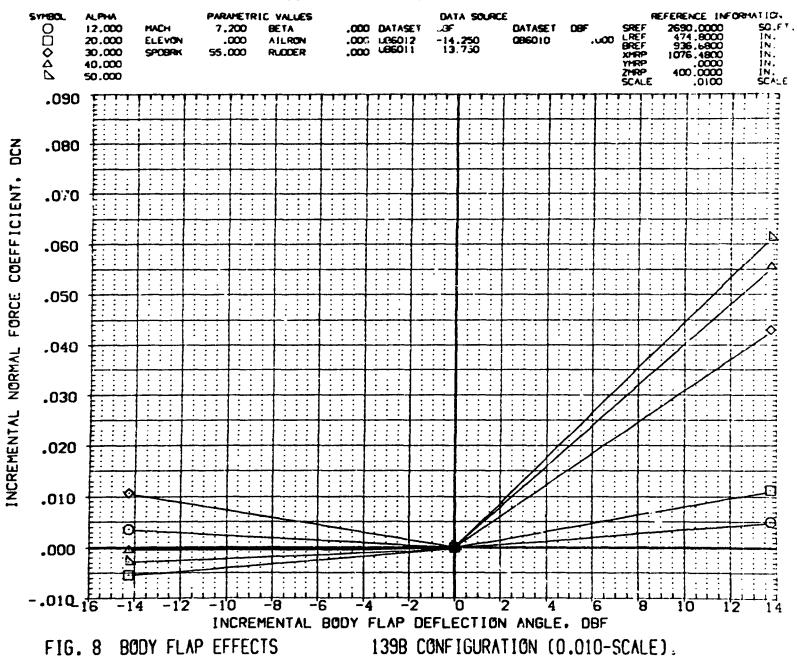


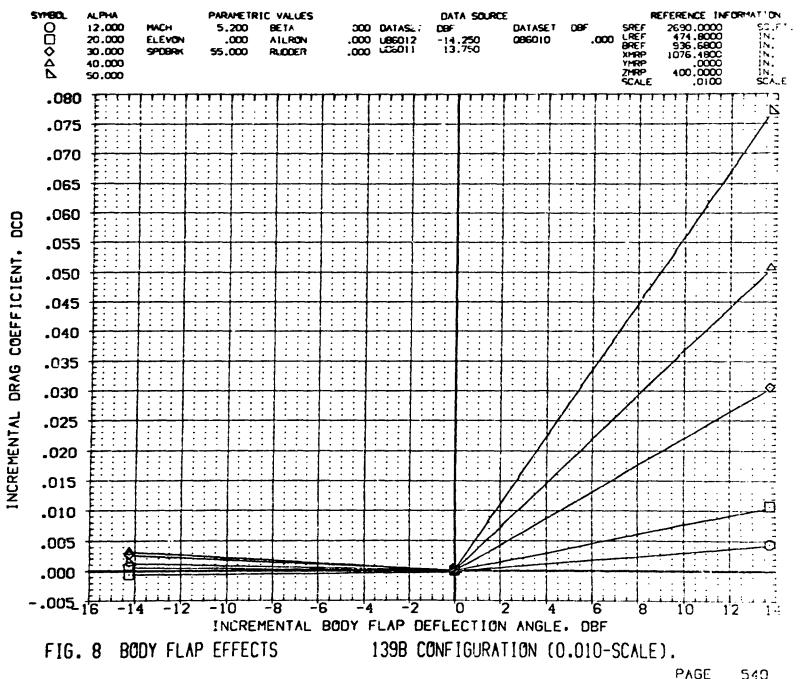
the contract of the

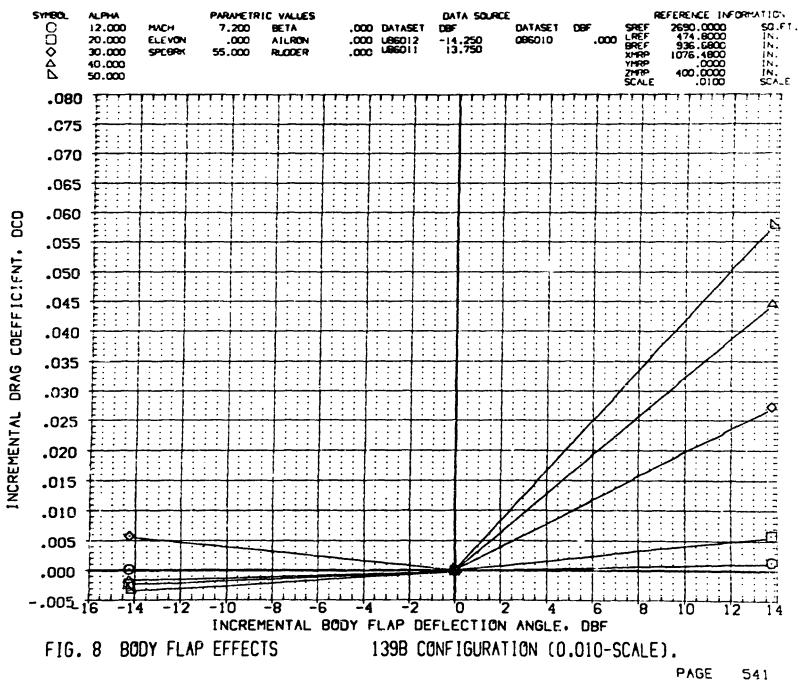


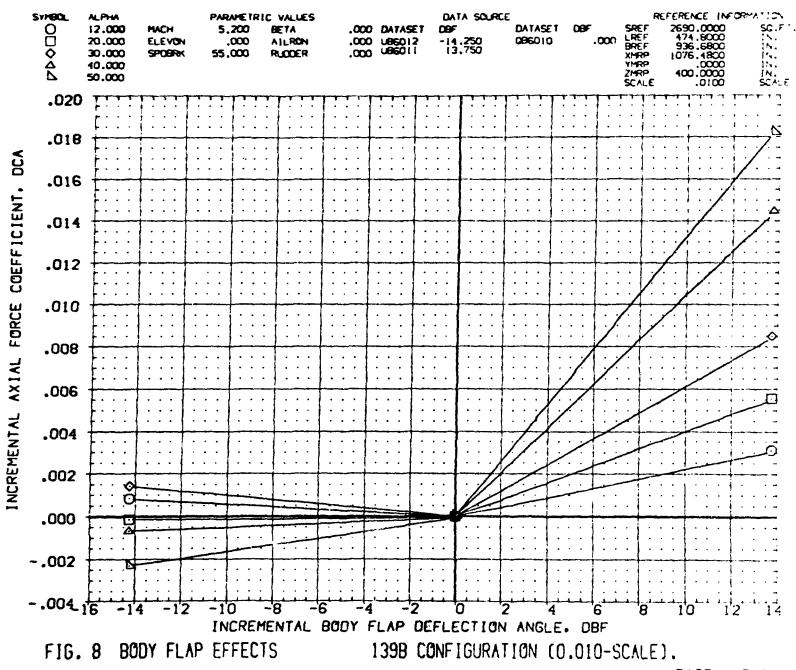




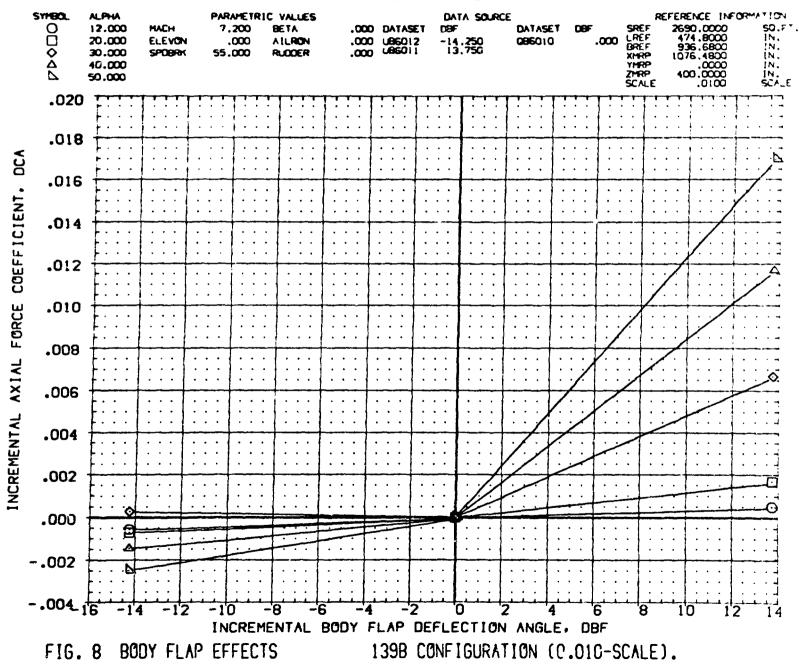




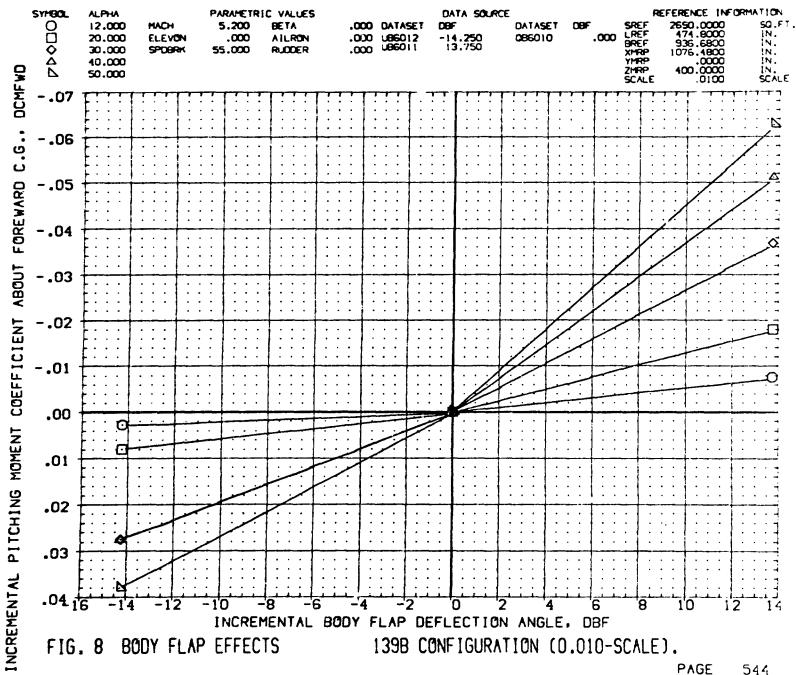




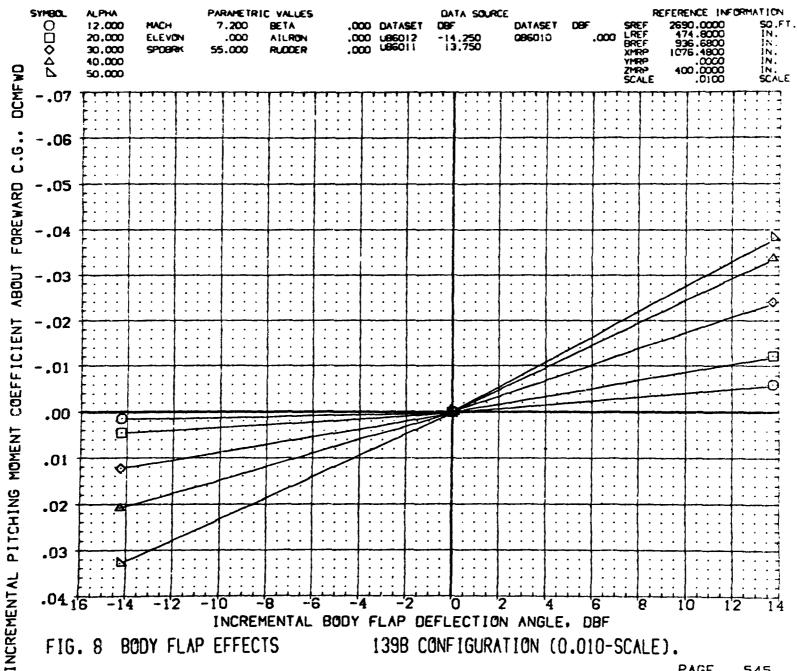
\* \*

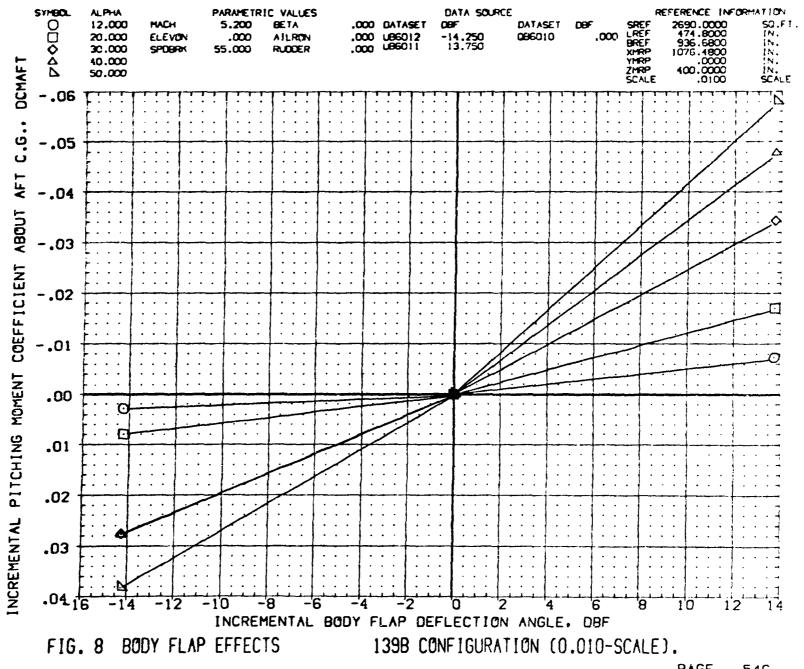


The second second



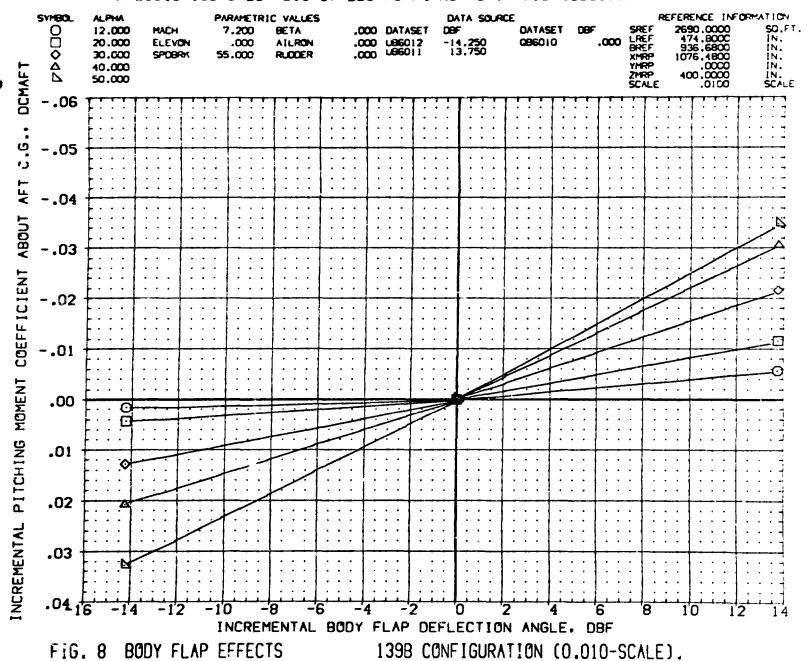
\* \*



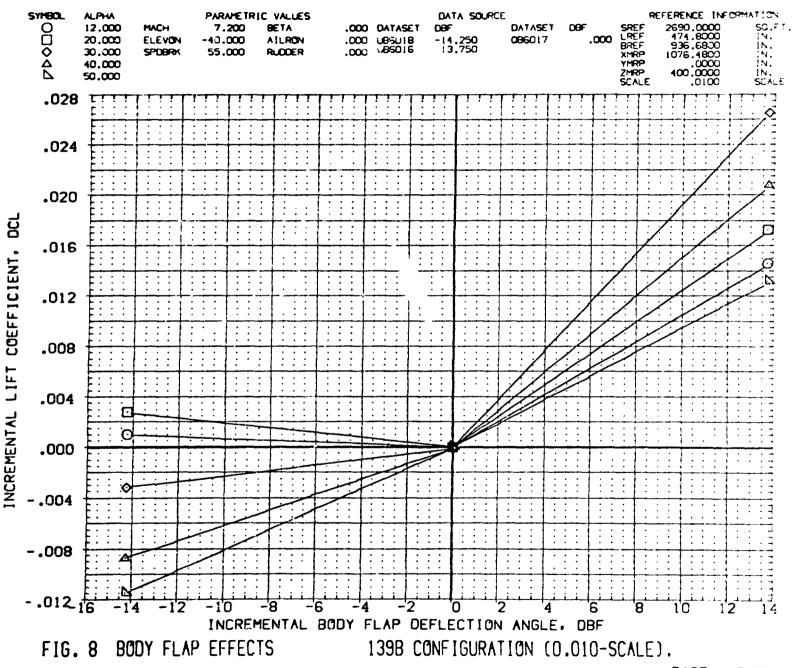


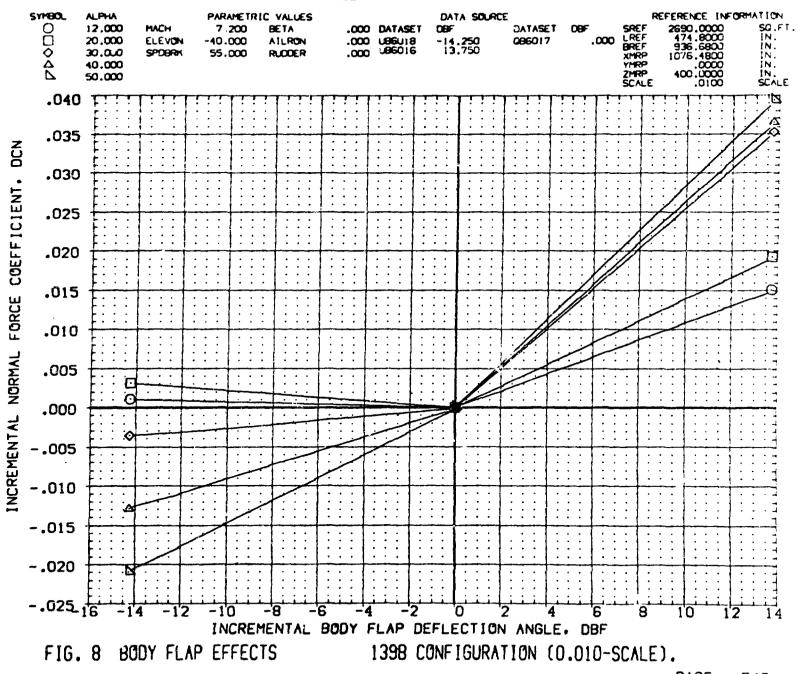
No 100 - 32

## AMES3.5-168 0A23 B19 C7 E23 F5 M4 N8 R5 V7 W107 (UB6012)

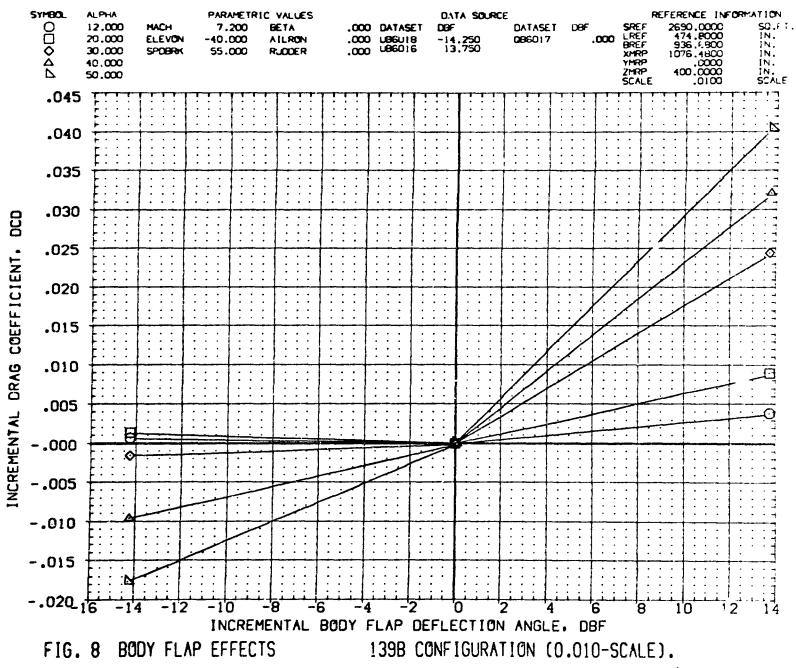


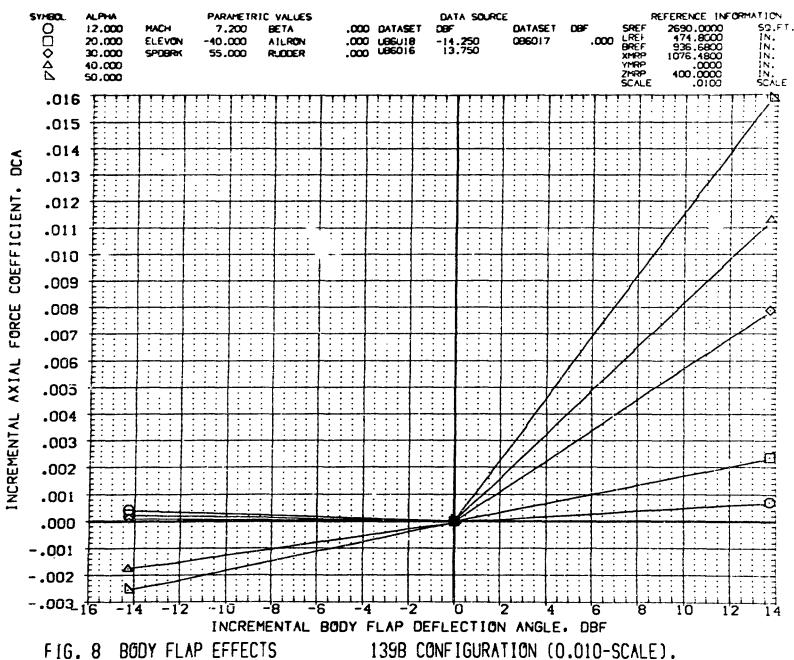
AMES3.5-168 GA23 B19 C7 E23 F5 M4 N8 R5 V7 W107 (UB6U18)





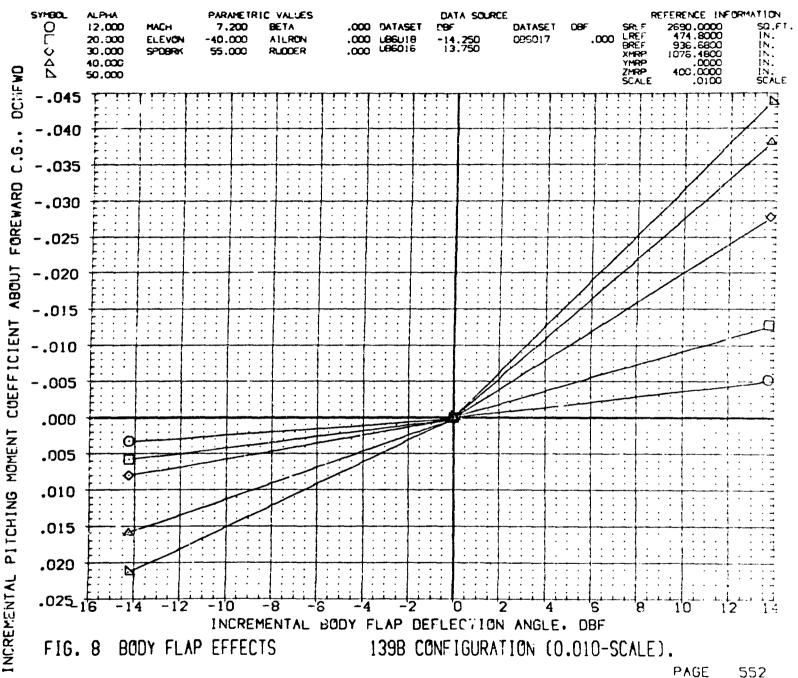
AMES3.5-168 0A23 B19 C7 E23 F5 M4 N8 R5 V7 W107 (UB6U18)

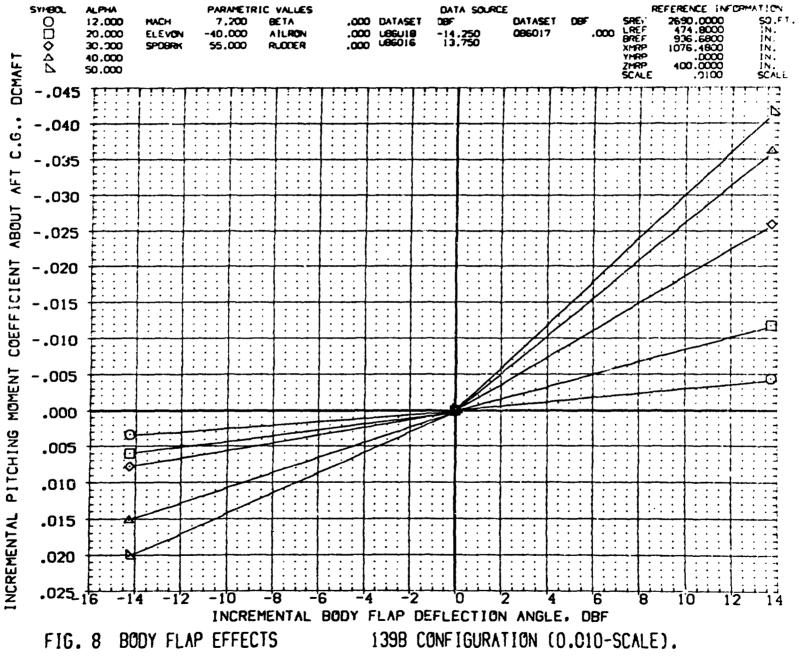


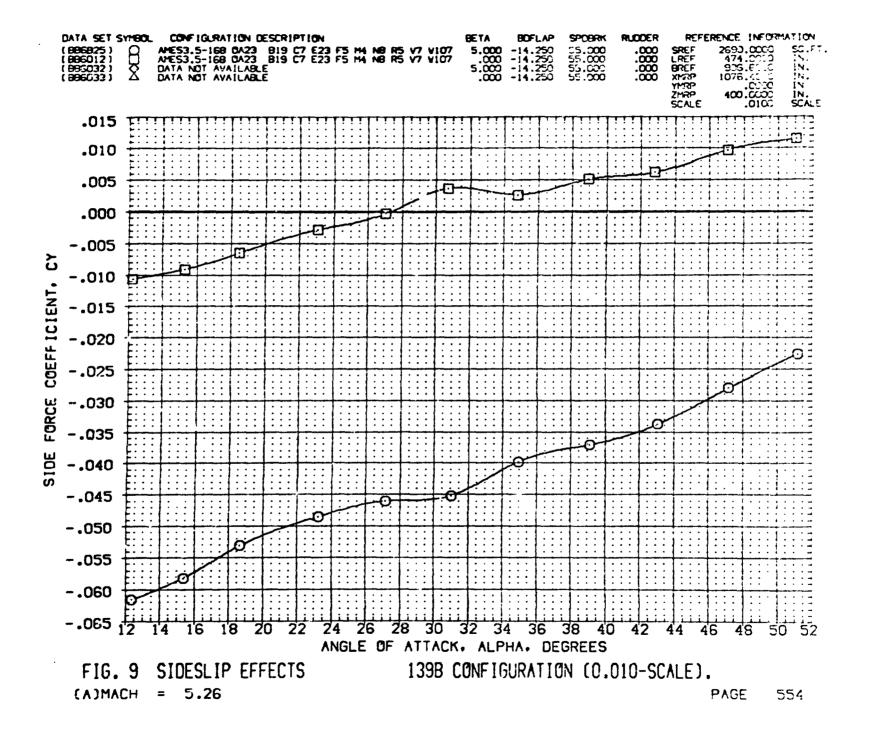


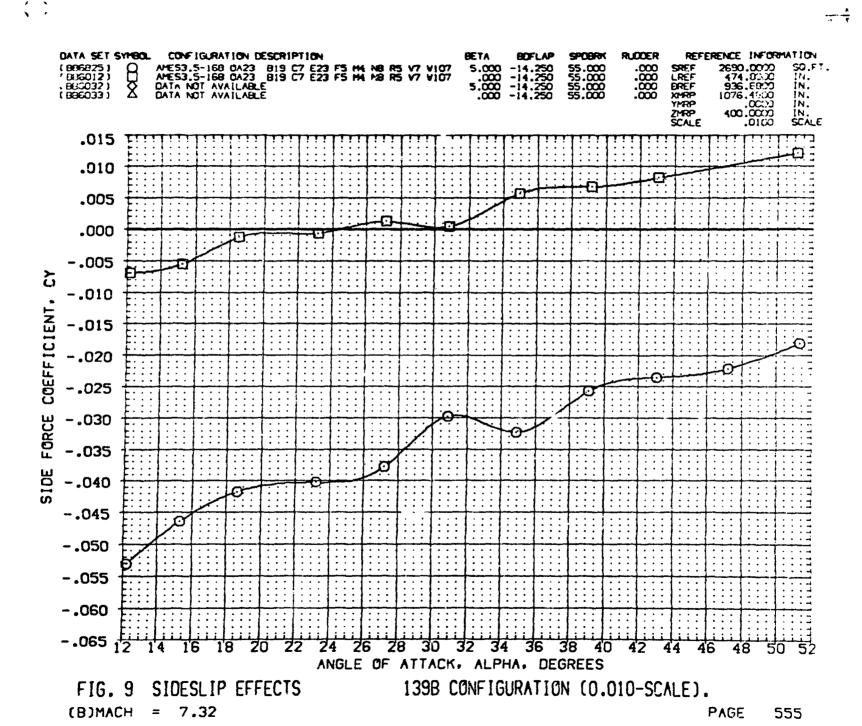
PAGE 551

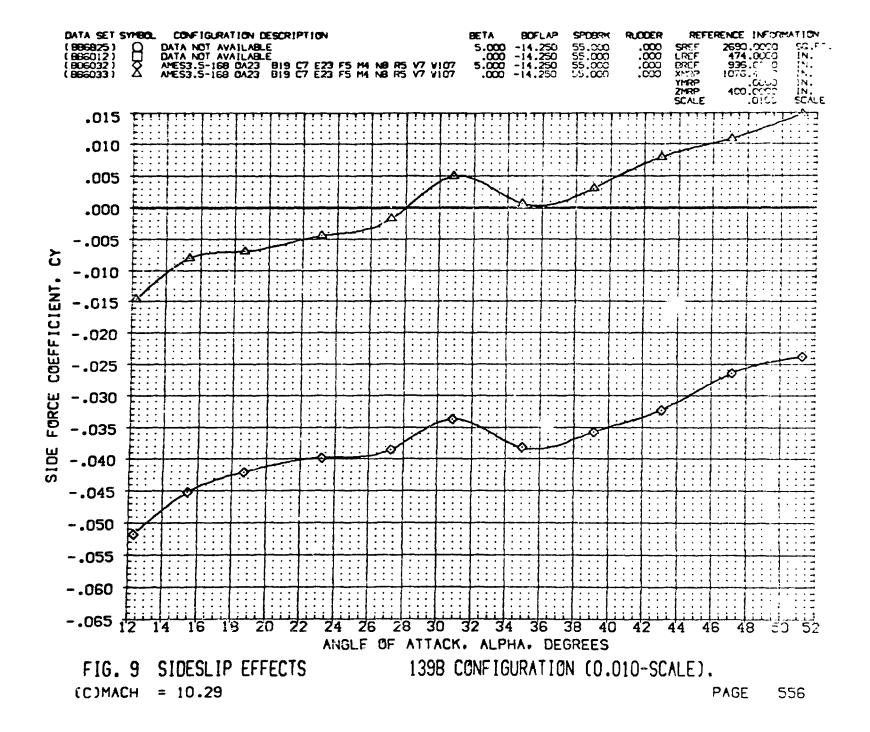
.

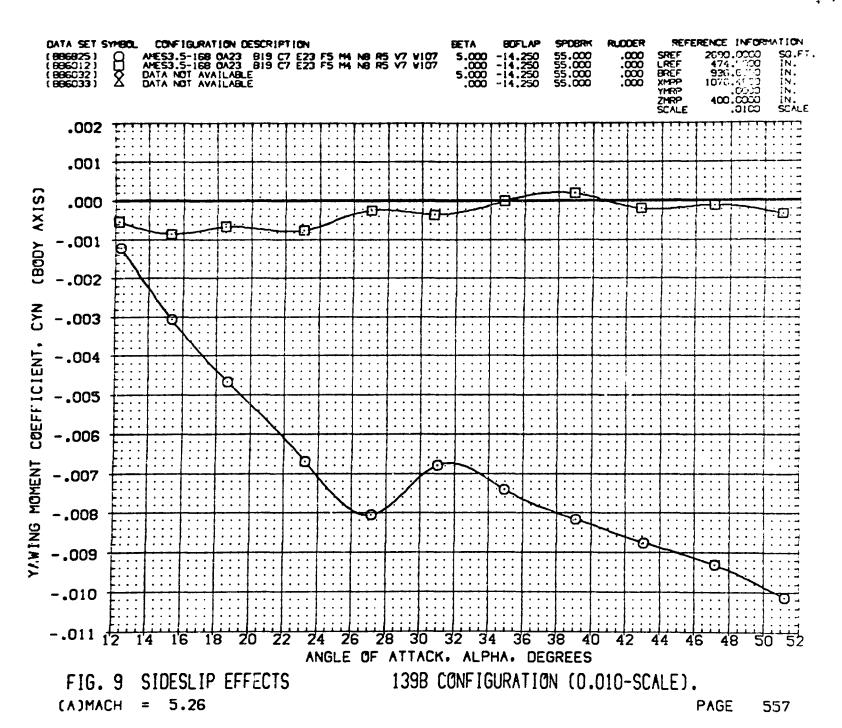


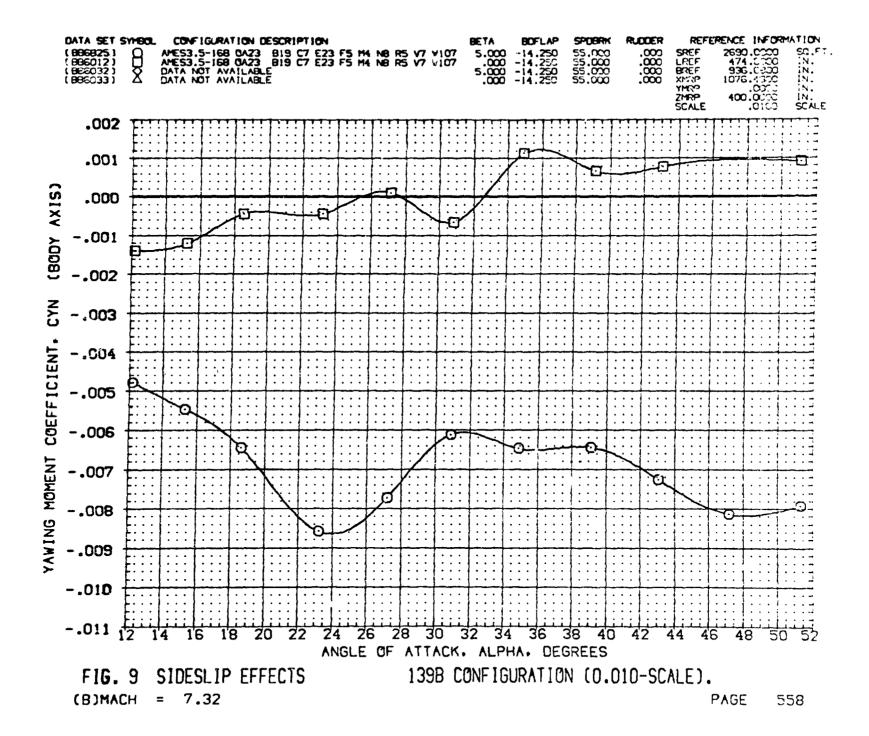


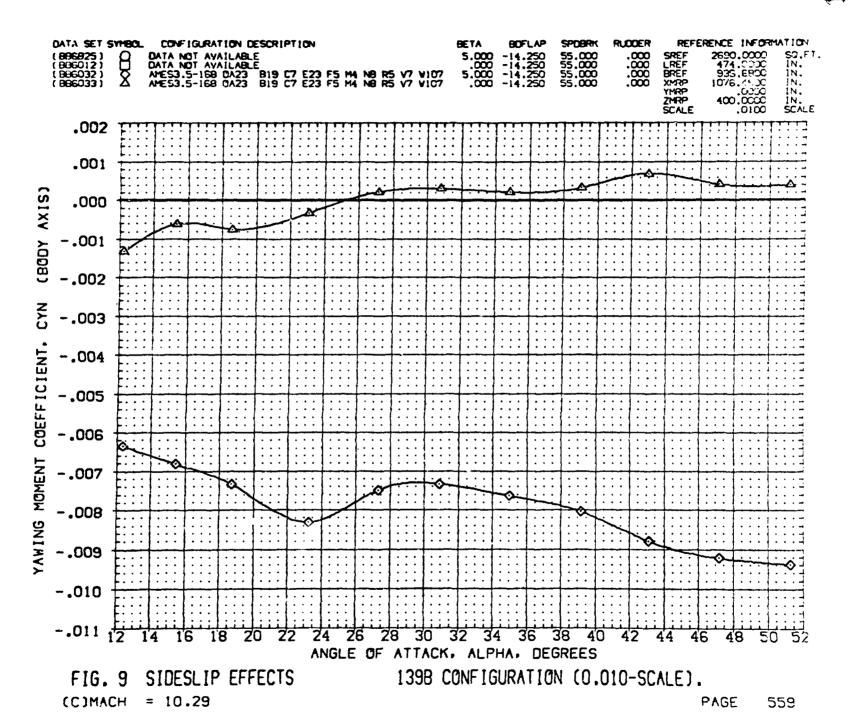


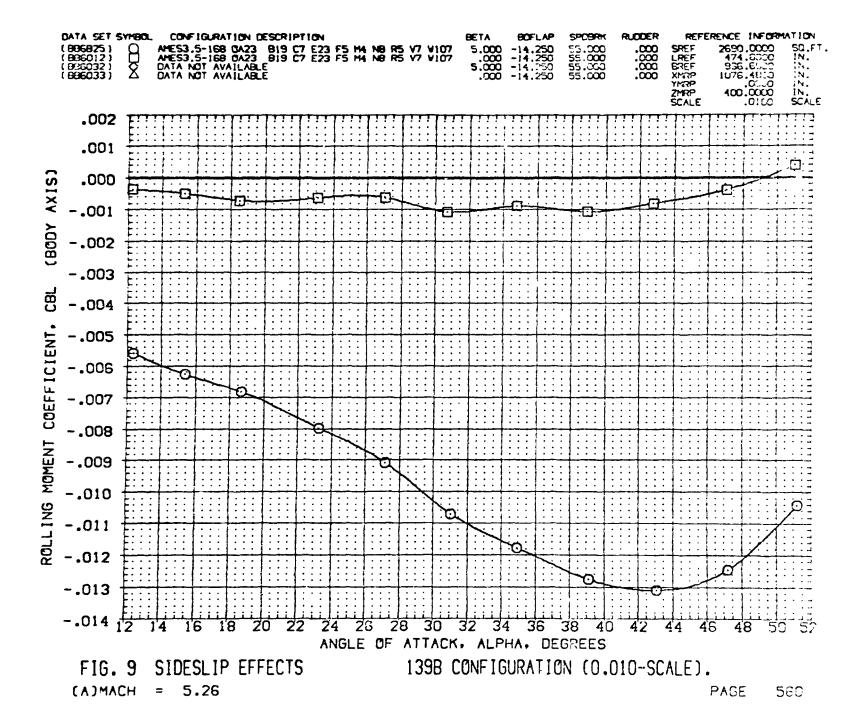


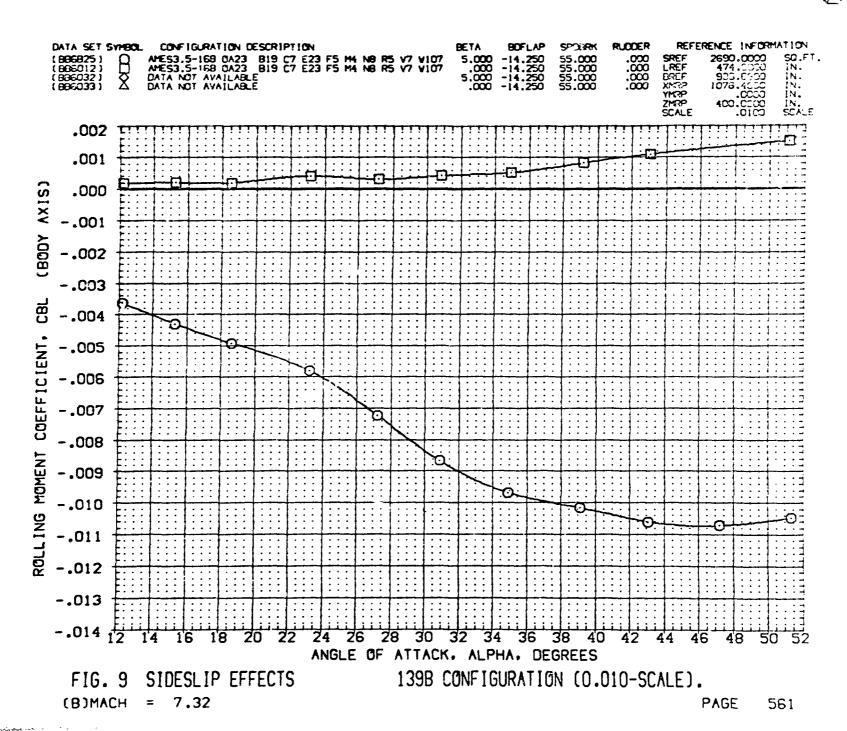


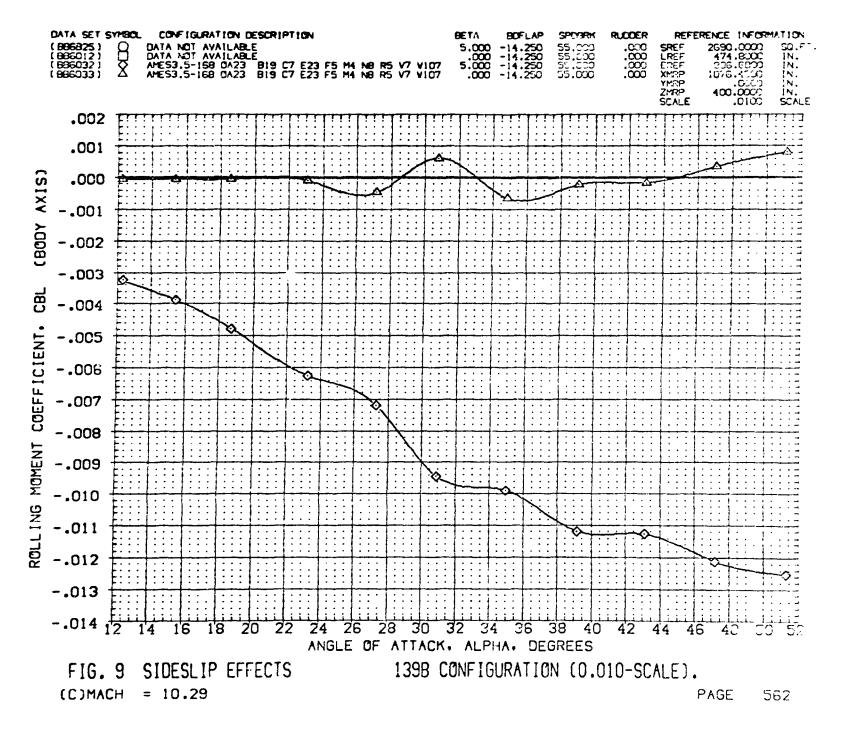






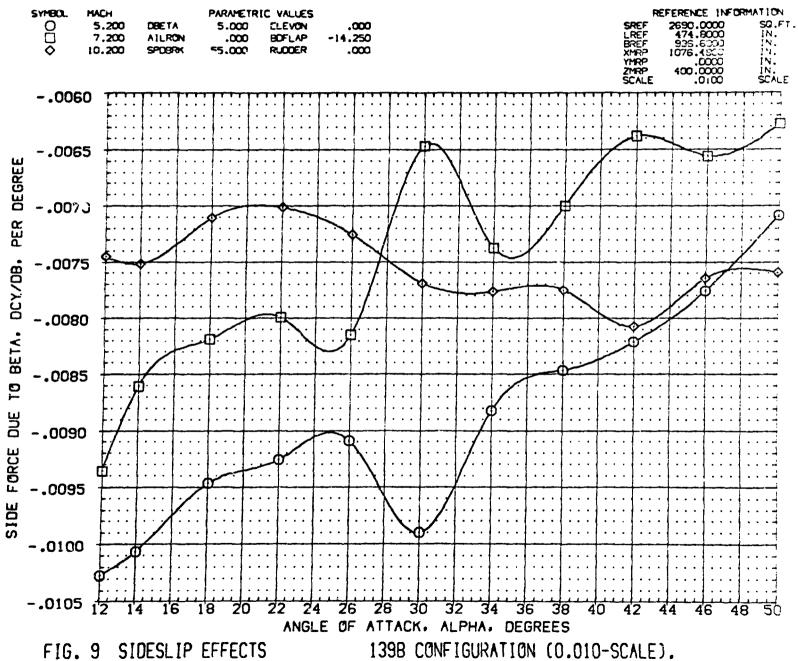




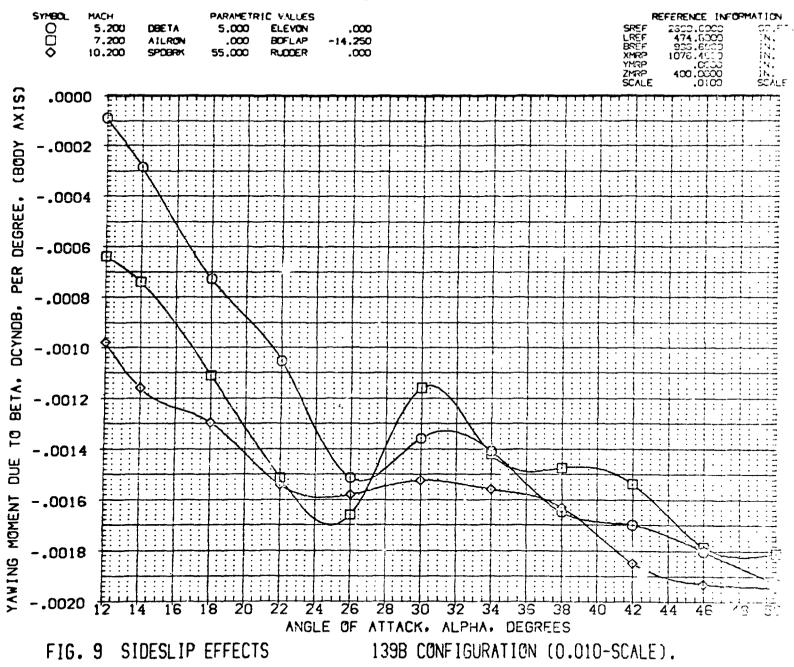


\$ A

AMES3.5-168 0A23 B19 C7 E23 F5 M4 N8 R5 V7 W107(V86025)



AMES3.5-168 0A23 B19 C7 E23 F5 M4 N8 R5 V7 W107(VB6025)



## AMES3.5-168 0A23 B19 C7 E23 F5 M4 N8 R5 V7 W107(VB6025)

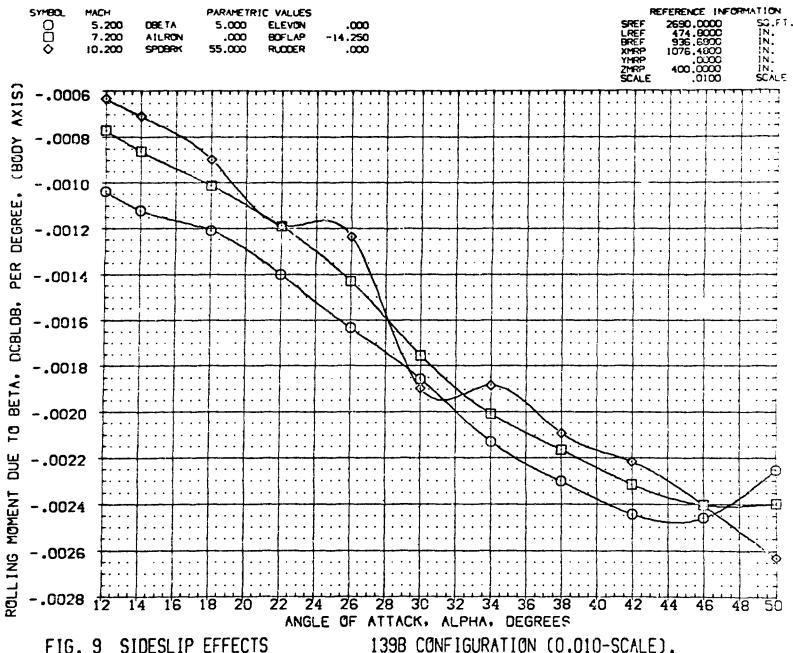
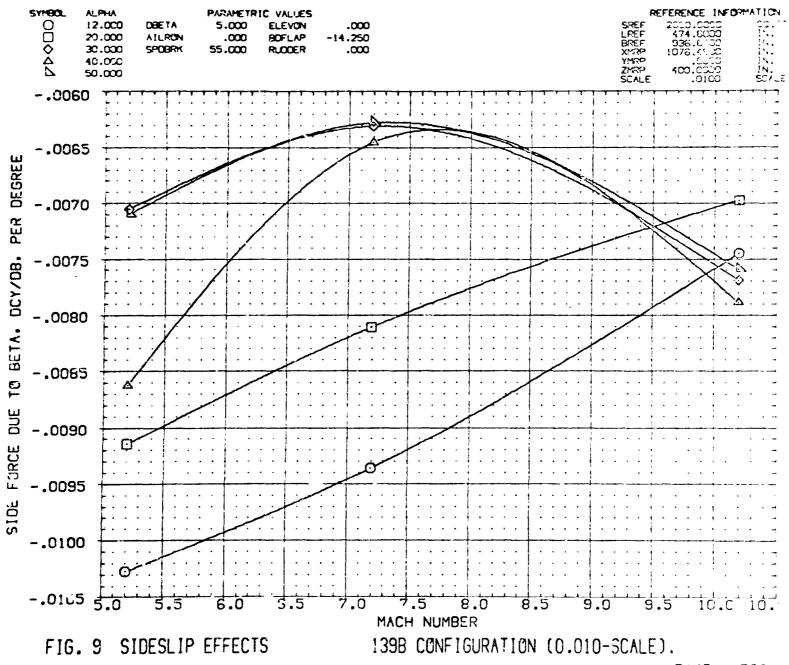
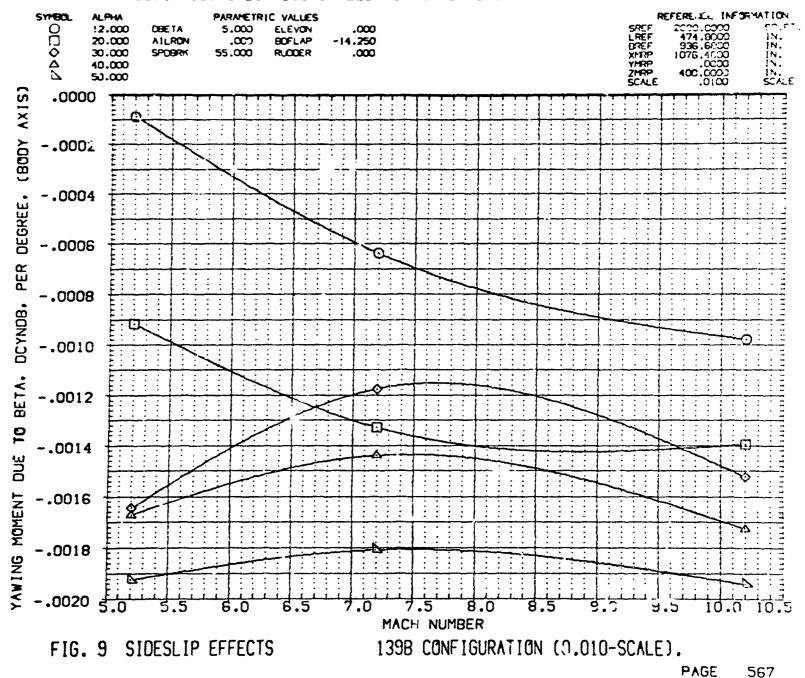


FIG. 9 SIDESLIP EFFECTS

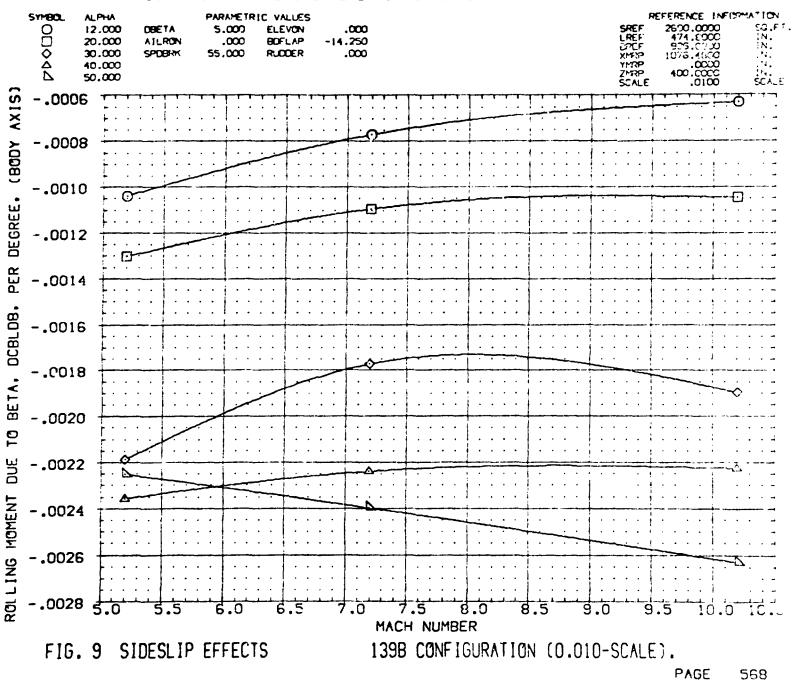
## AMES3.5-168 0A23 B19 C7 E23 F5 M4 N8 R5 V7 W107 (WB6025)

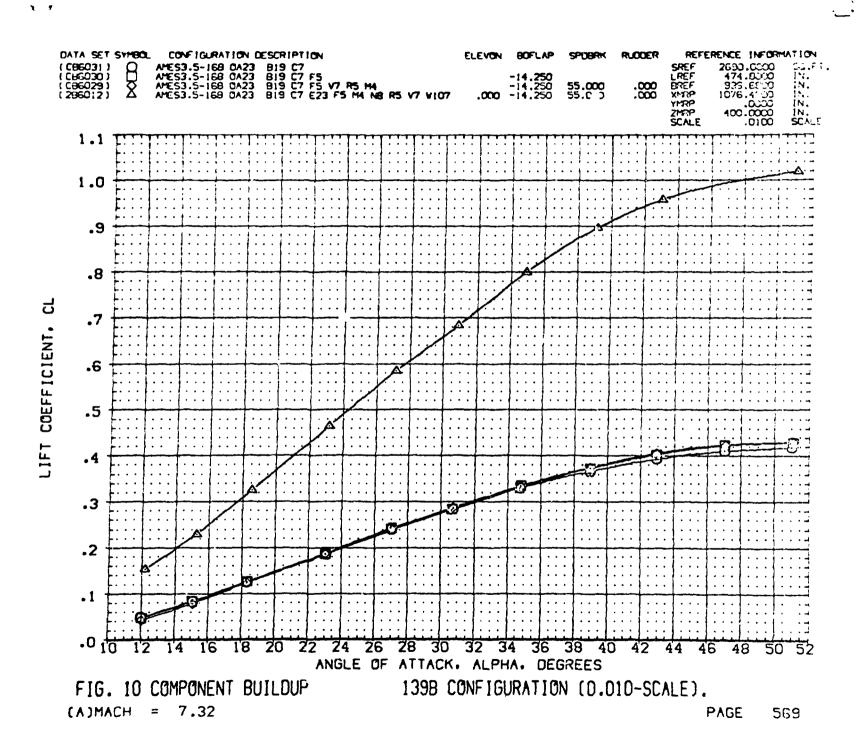


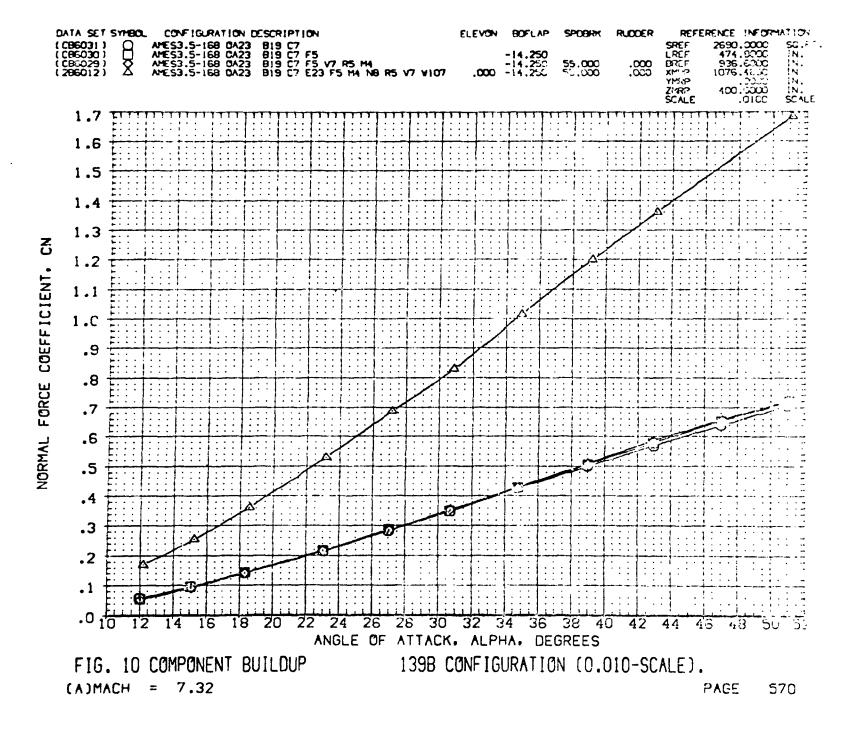
## AMES3.5-168 0A23 B19 C7 E23 F5 M4 N8 R5 V7 W1U7(WB6025)

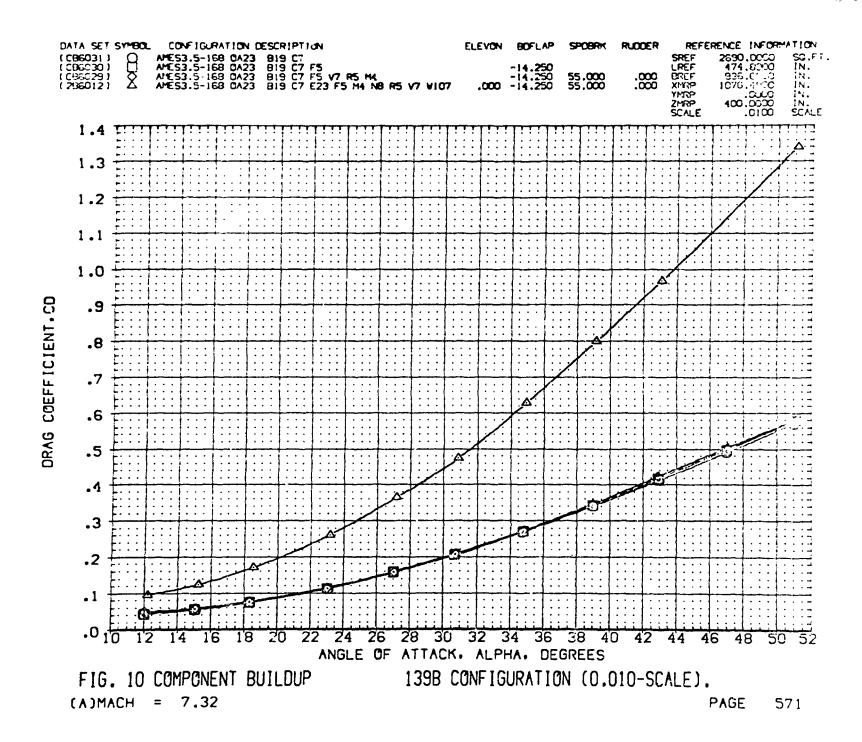


## AMES3.5-168 GA23 B19 C7 E23 F5 M4 N8 R5 V7 W107(WB6025)

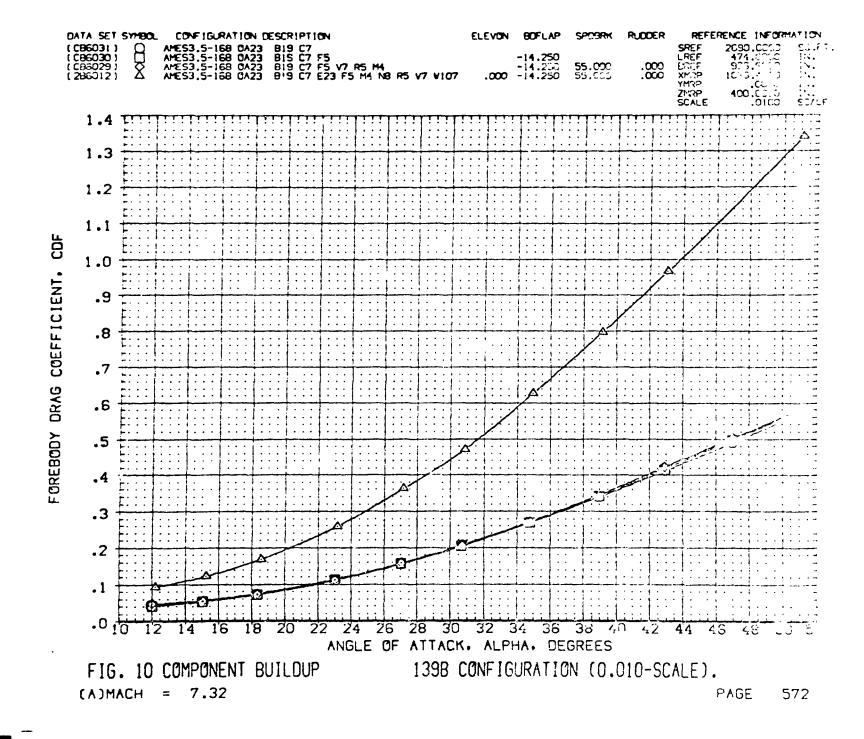


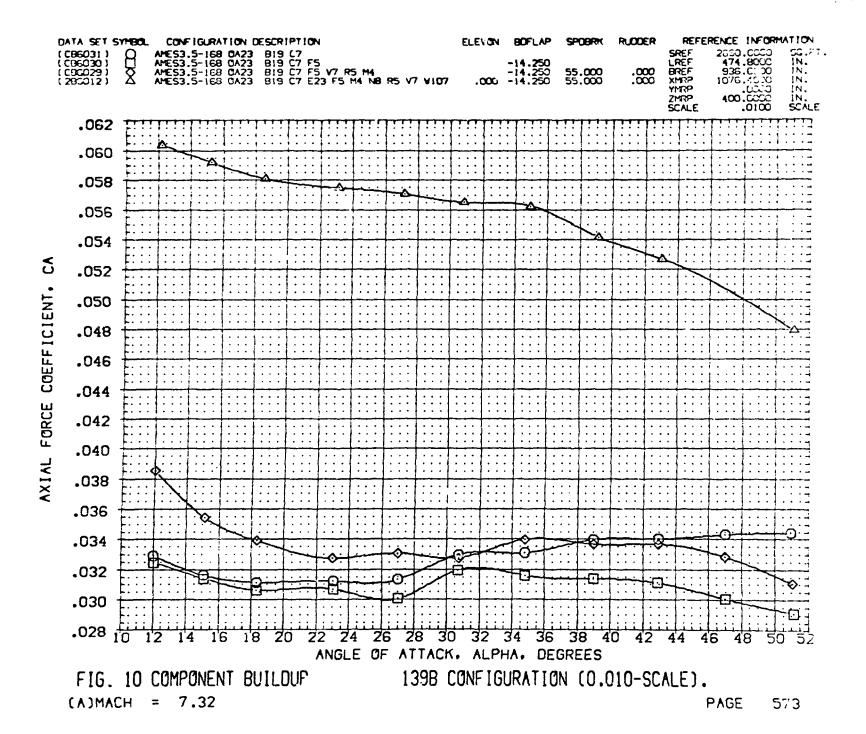


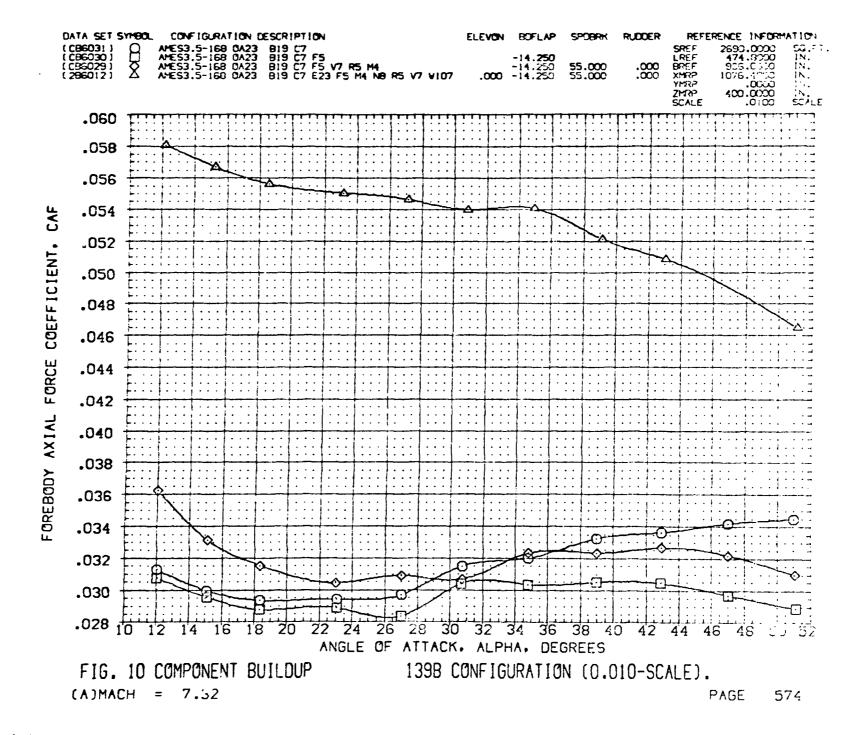


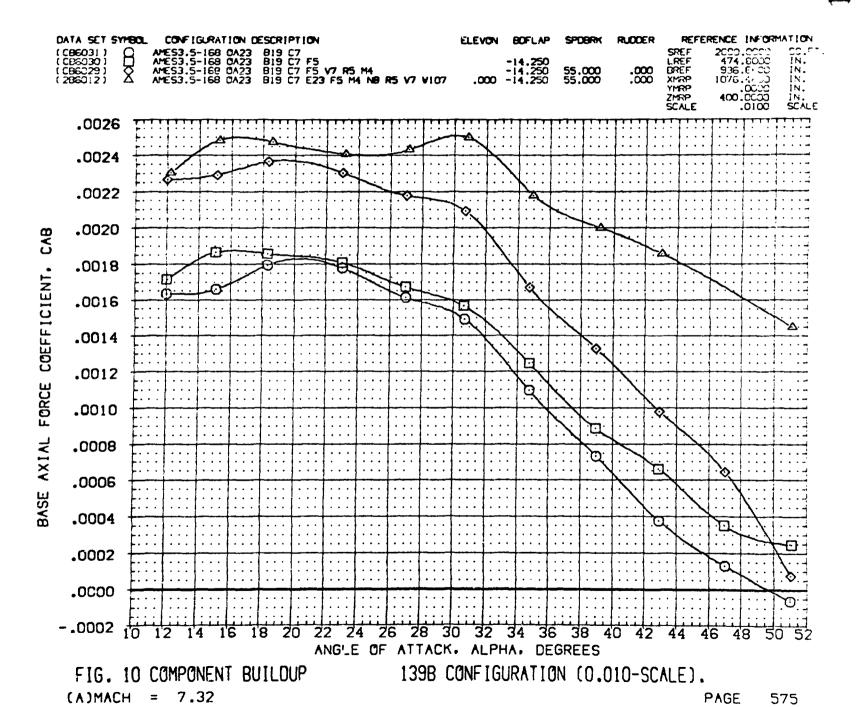


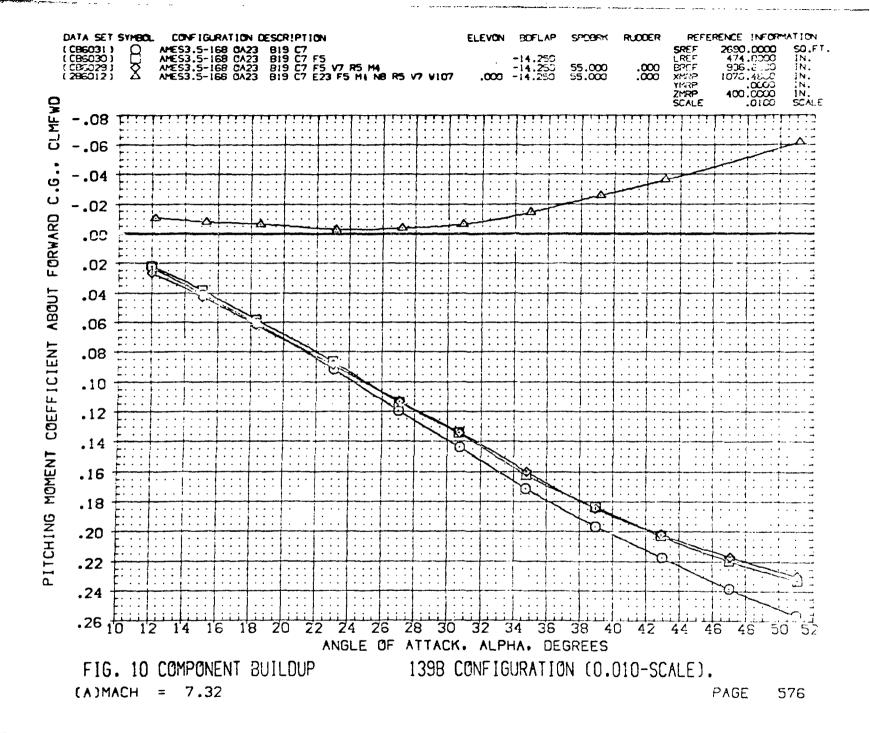
1 8

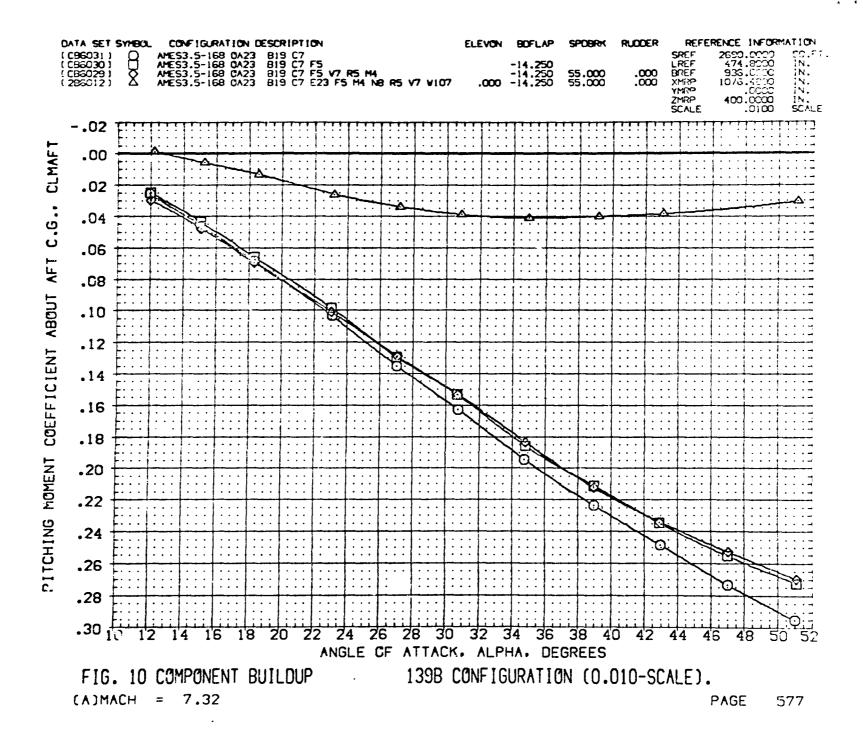


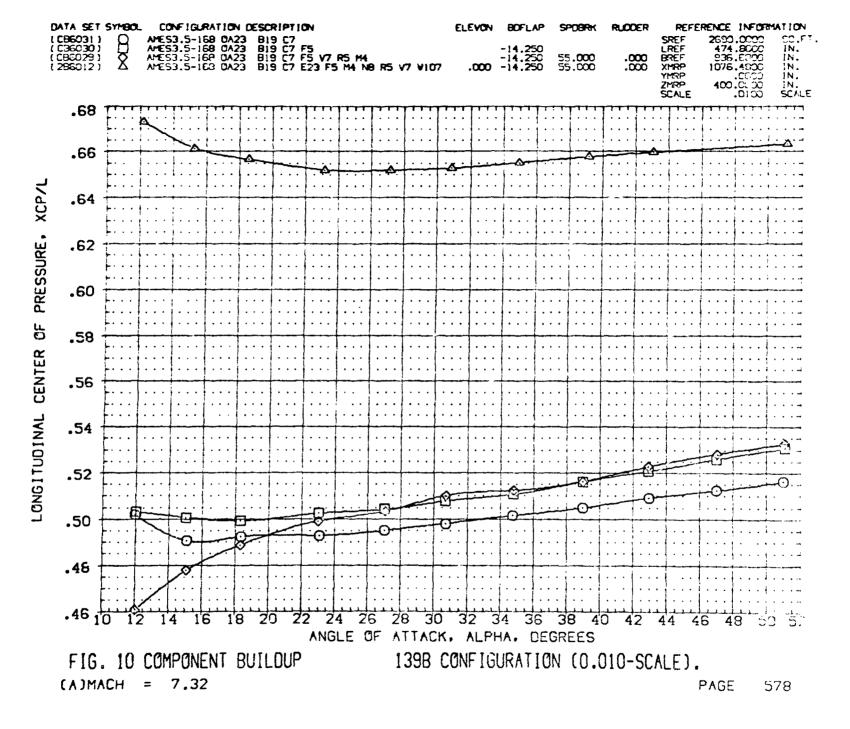




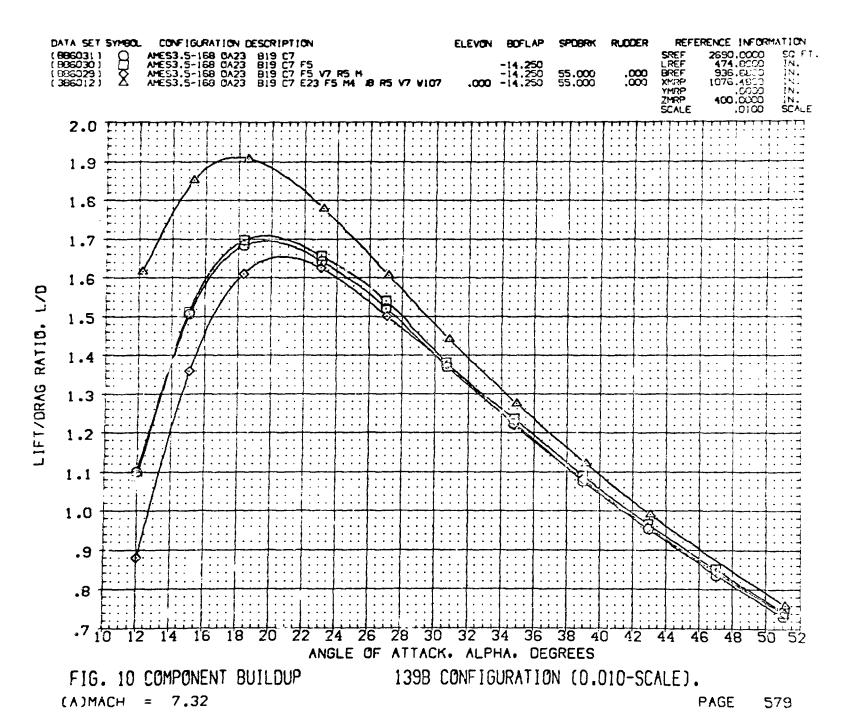


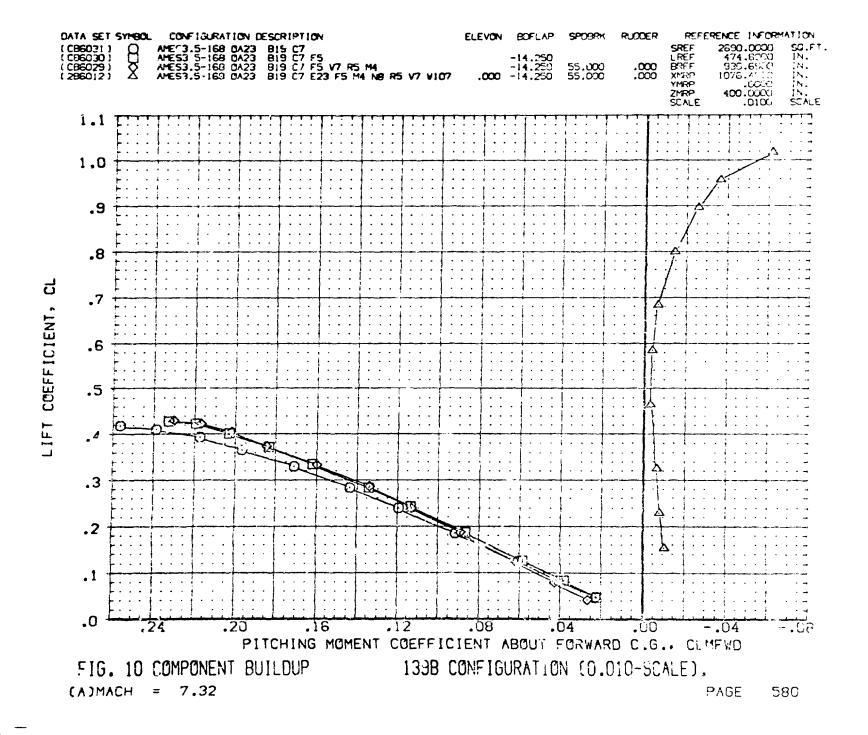


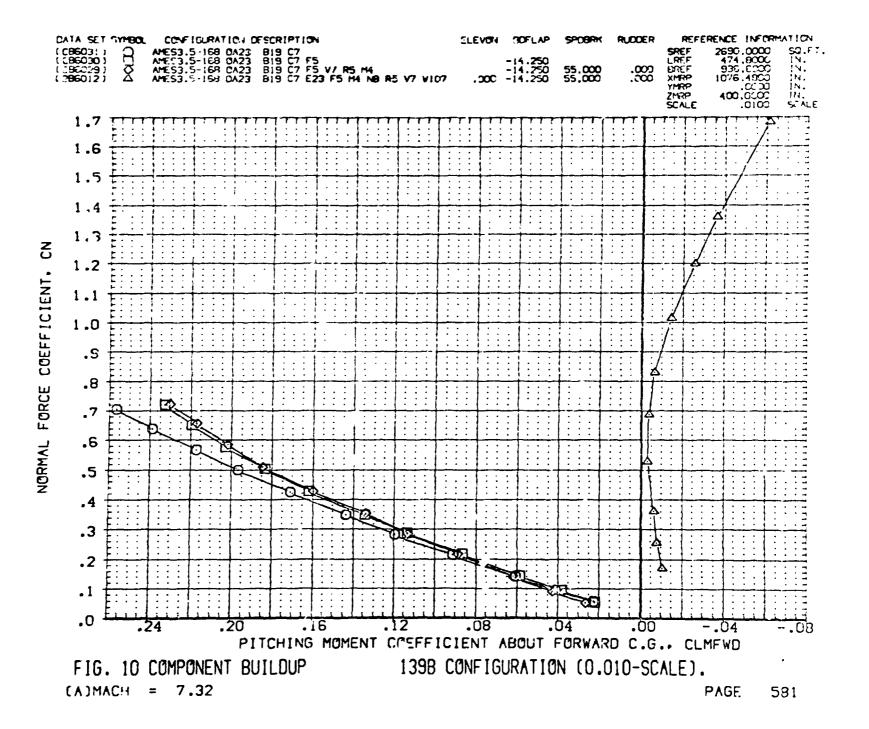


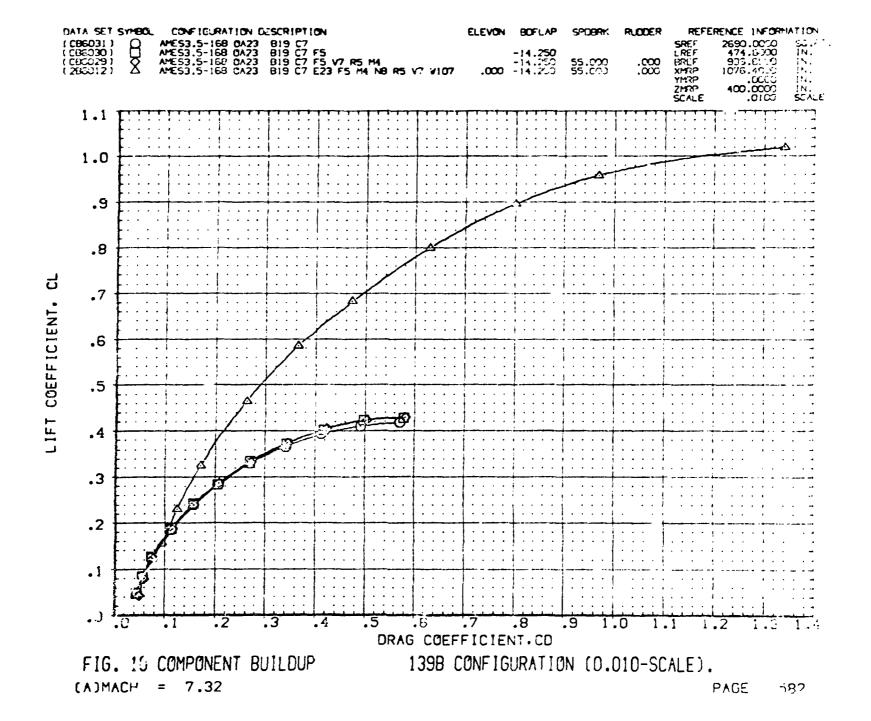


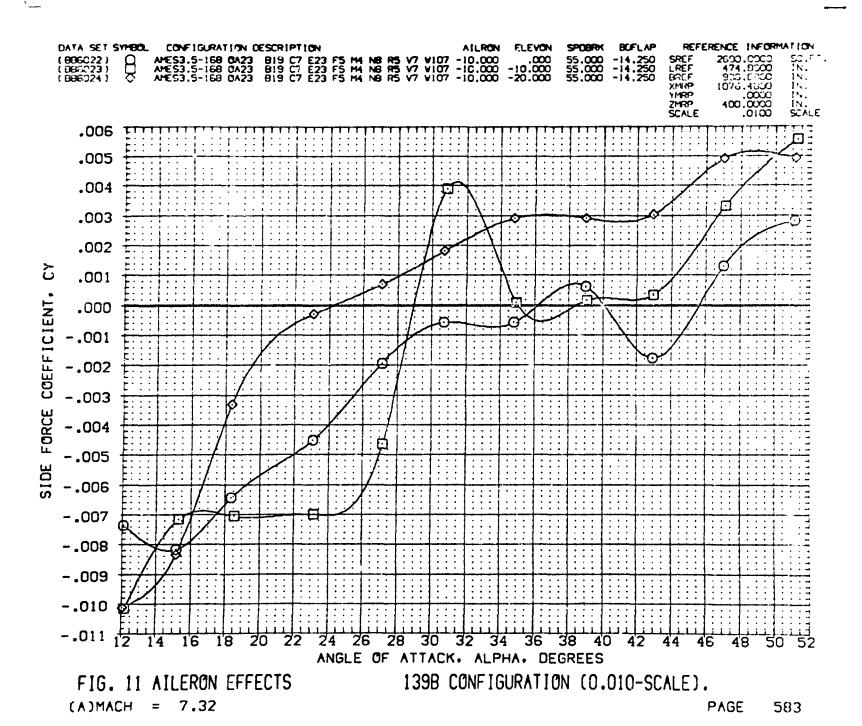
\* :

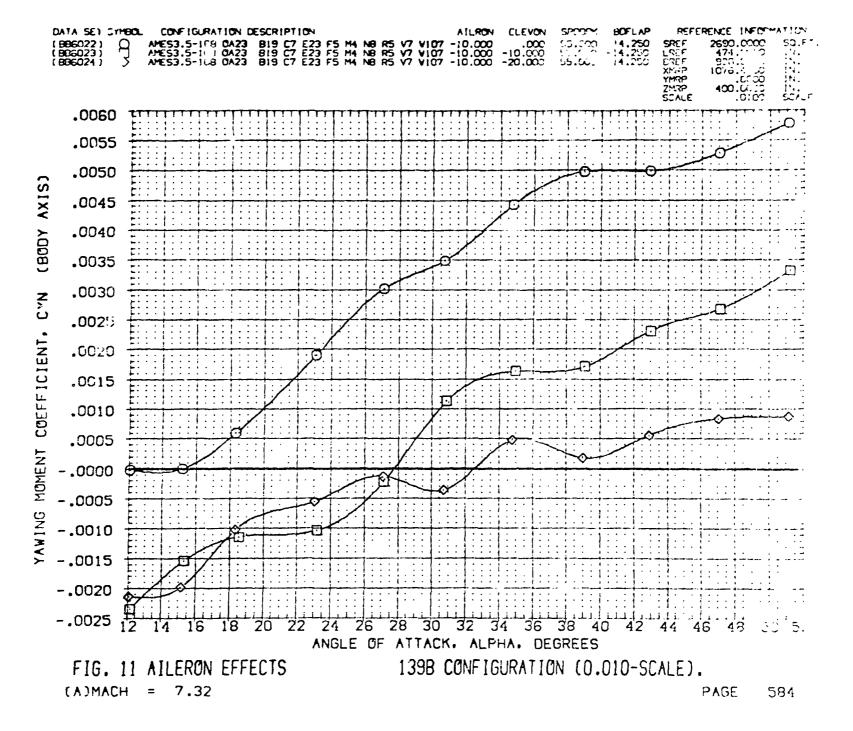


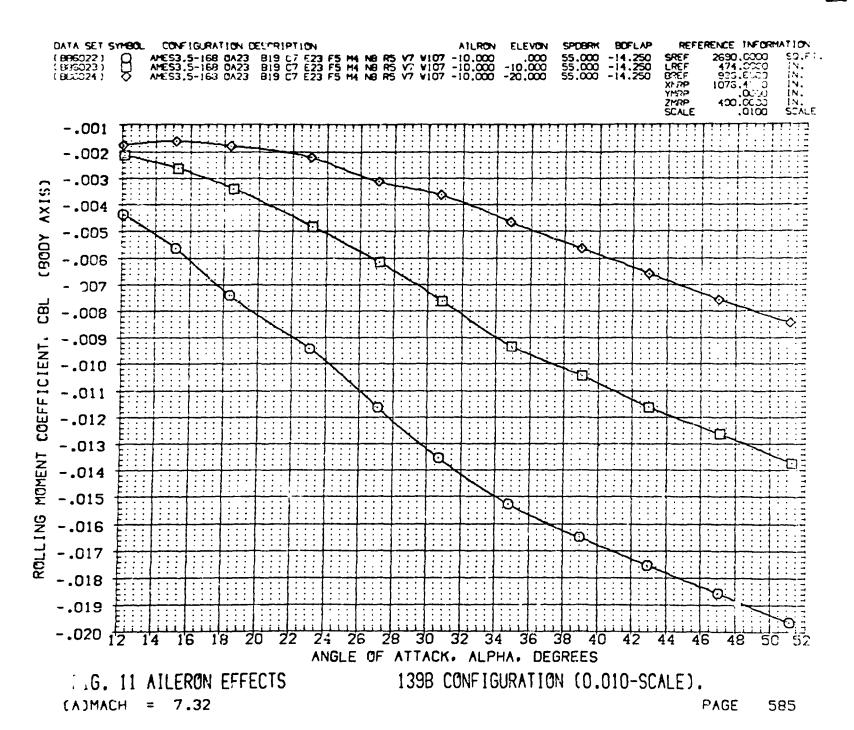


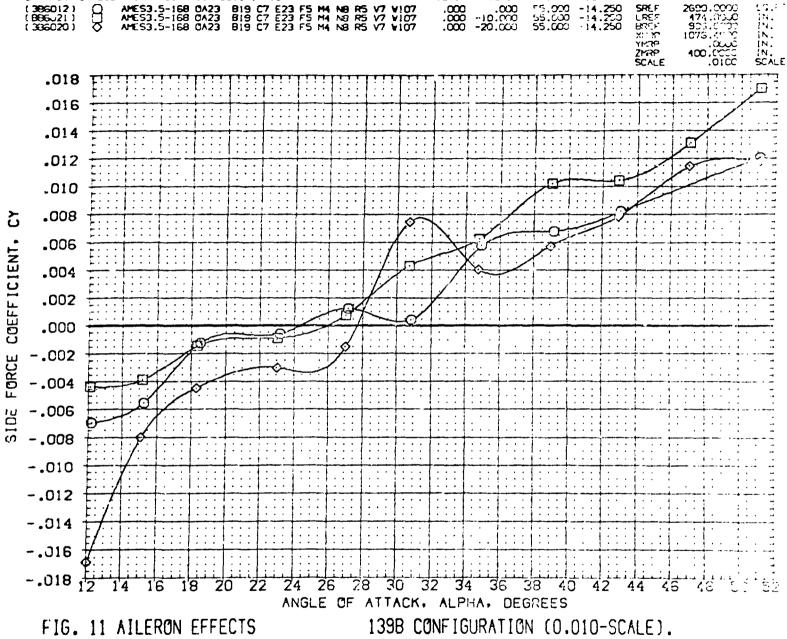












ATLRON

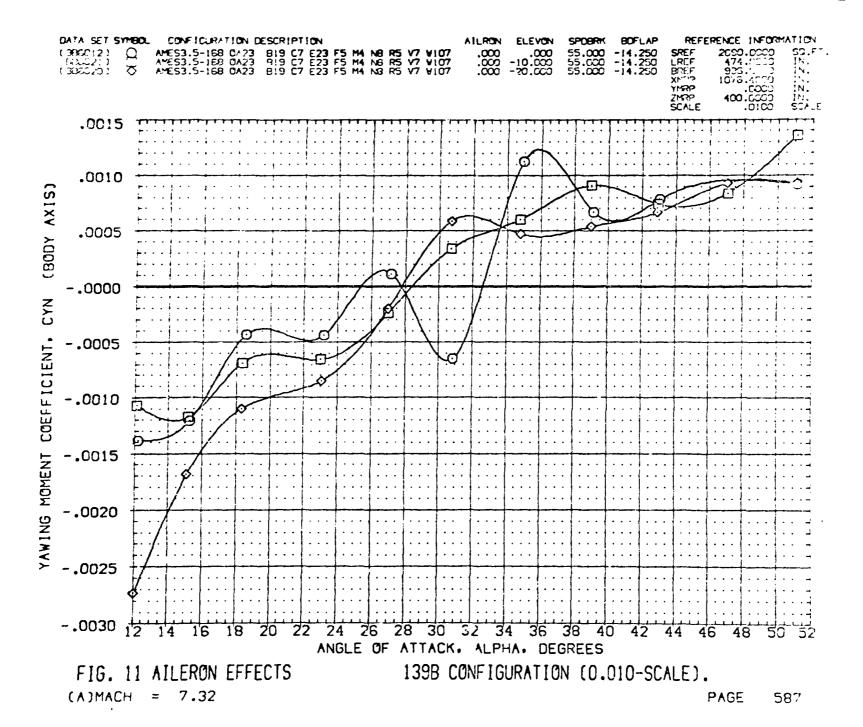
ELEVON

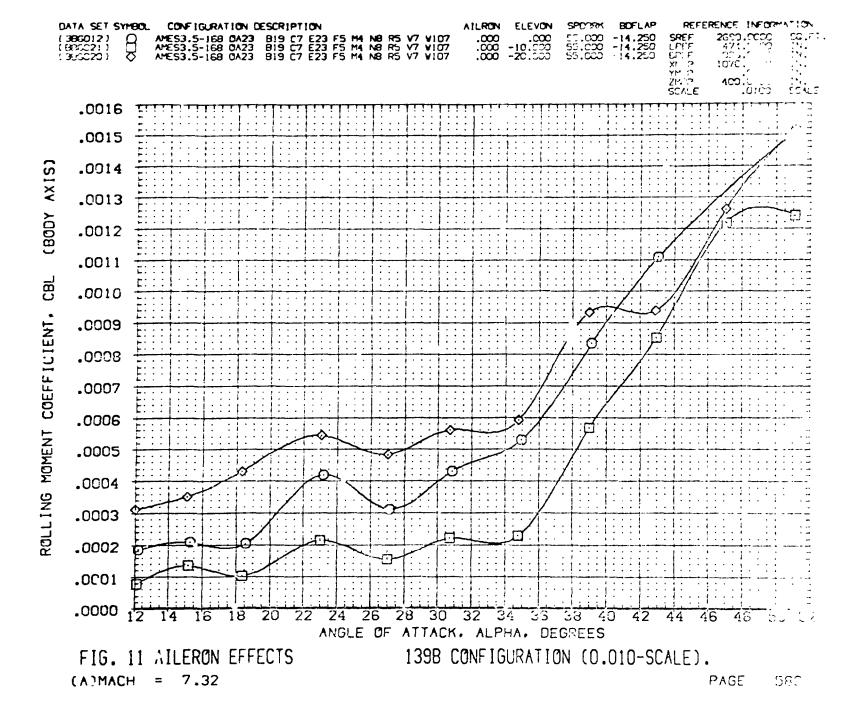
BOFLAP

REFERENCE INFORMATIO

(A)MACH = 7.32

DATA SET SYMBOL CONFIGURATION DESCRIPTION





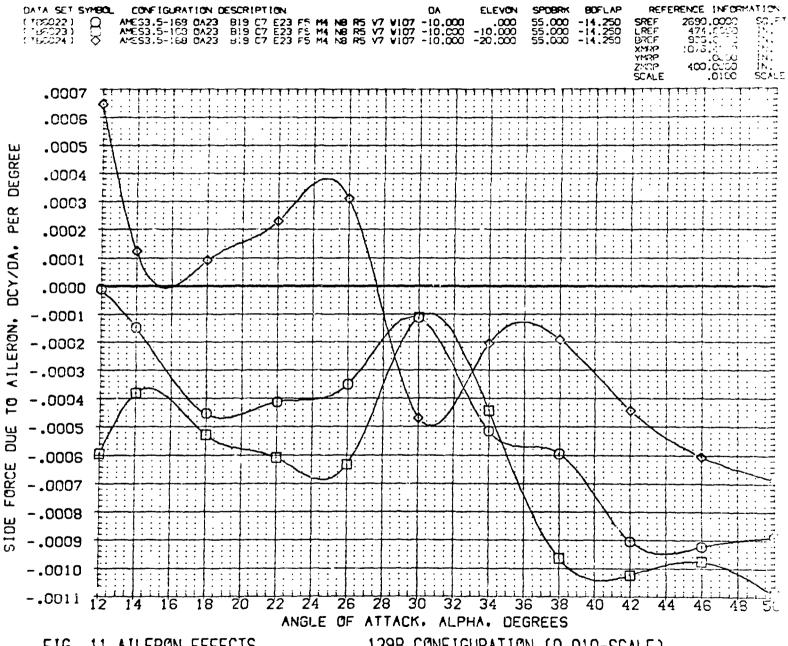
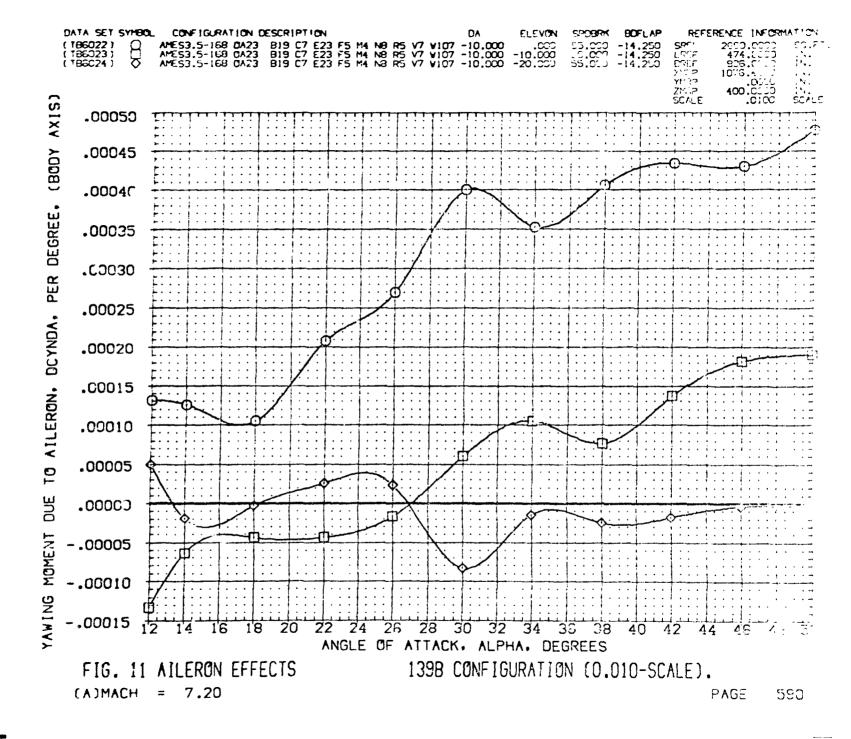
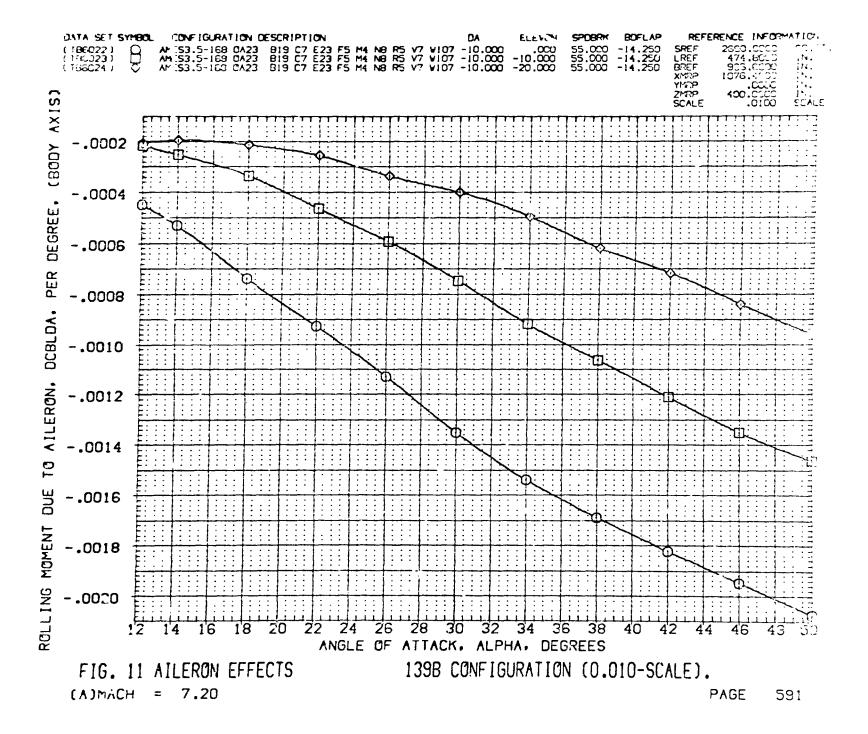
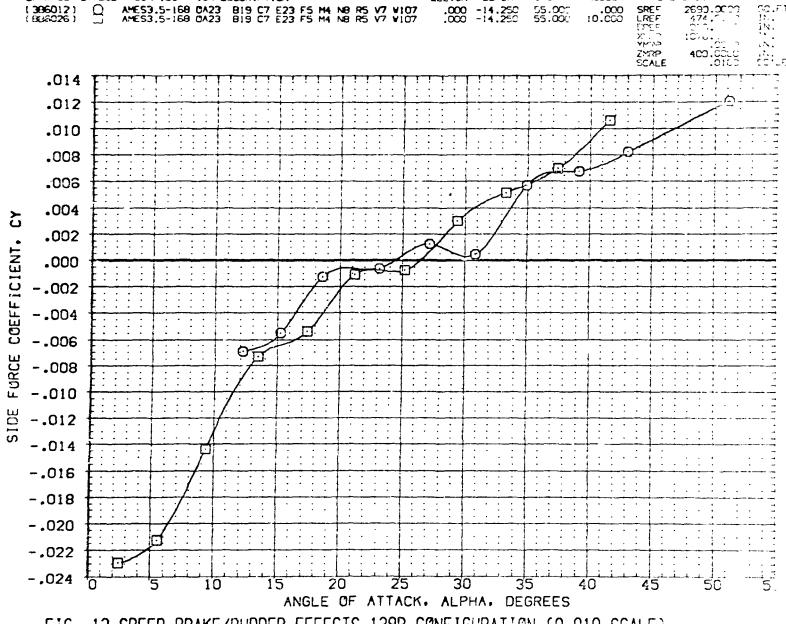


FIG. 11 AILERON EFFECTS
(A)MACH = 7.20

139B CONFIGURATION (0.010-SCALE).







RUDDER

DATA SET SYMBOL CONFIGURATION DESCRIPTION

FIG. 12 SPEED BRAKE/RUDDER EFFECTS 139B CONFIGURATION (0.010-SCALE)

[A)MACH = 7.32

PAGE 592

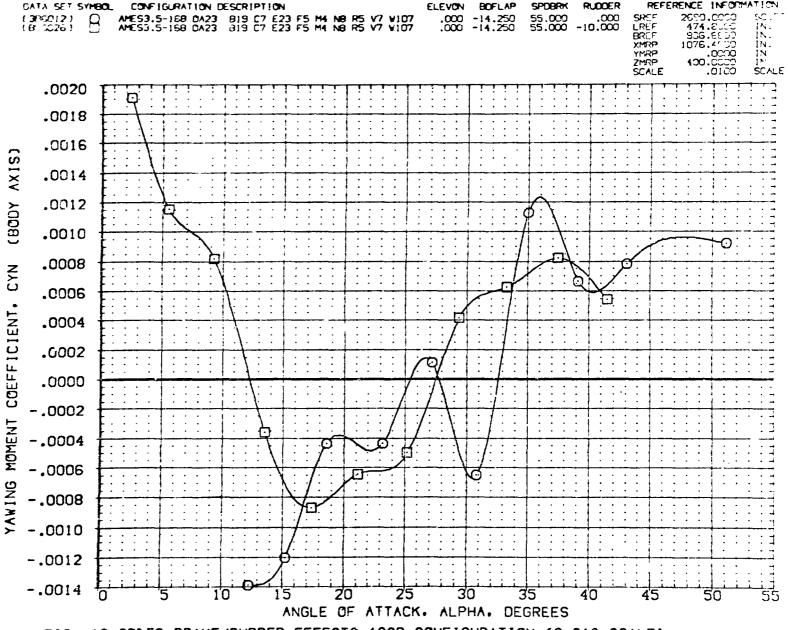


FIG. 12 SPEED BRAKE/RUDDER EFFECTS 139B CONFIGURATION (0.010-SCALE),

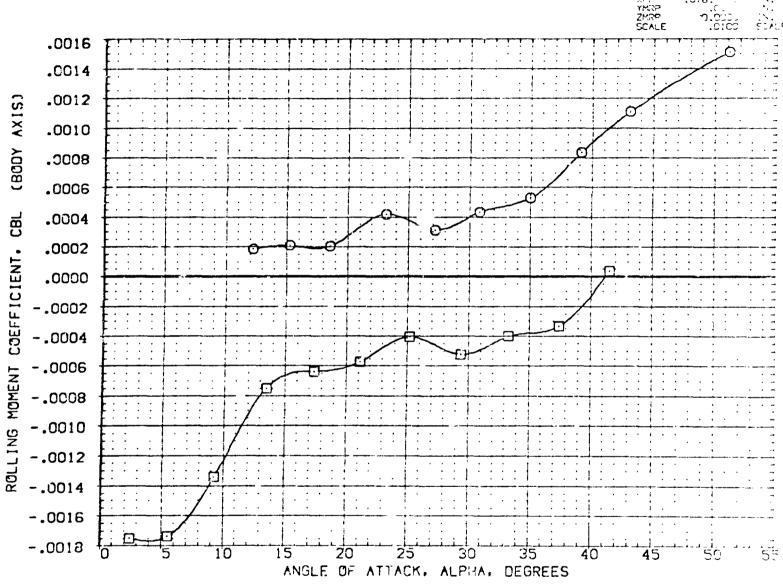
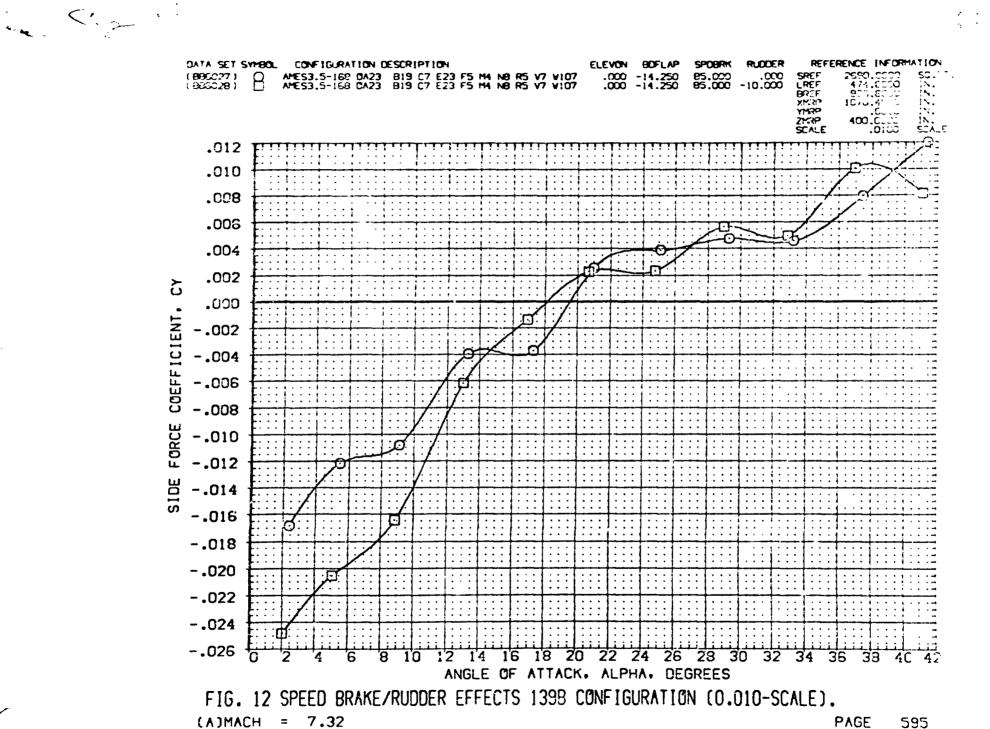
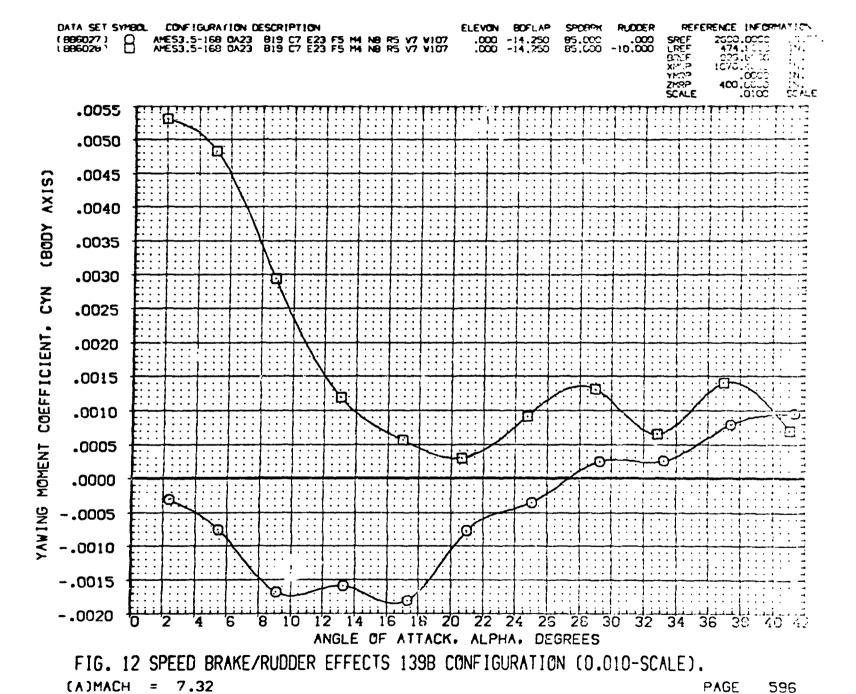


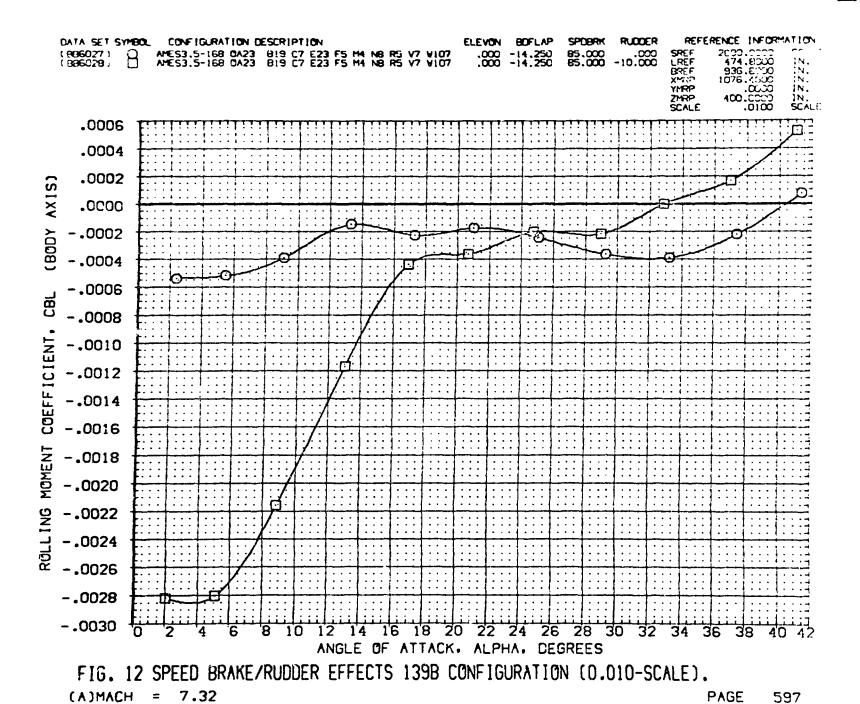
FIG. 12 SPEED BRAKE/RUDDER EFFECTS 139B CONFIGURATION (0.010-SCALE).

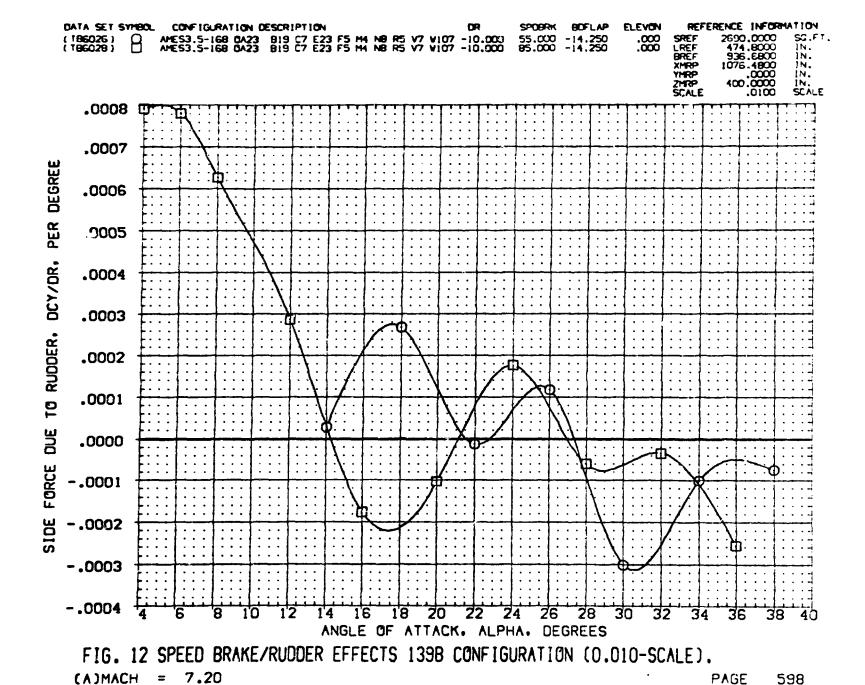
(A)MACH = 7.32

PAGE 594





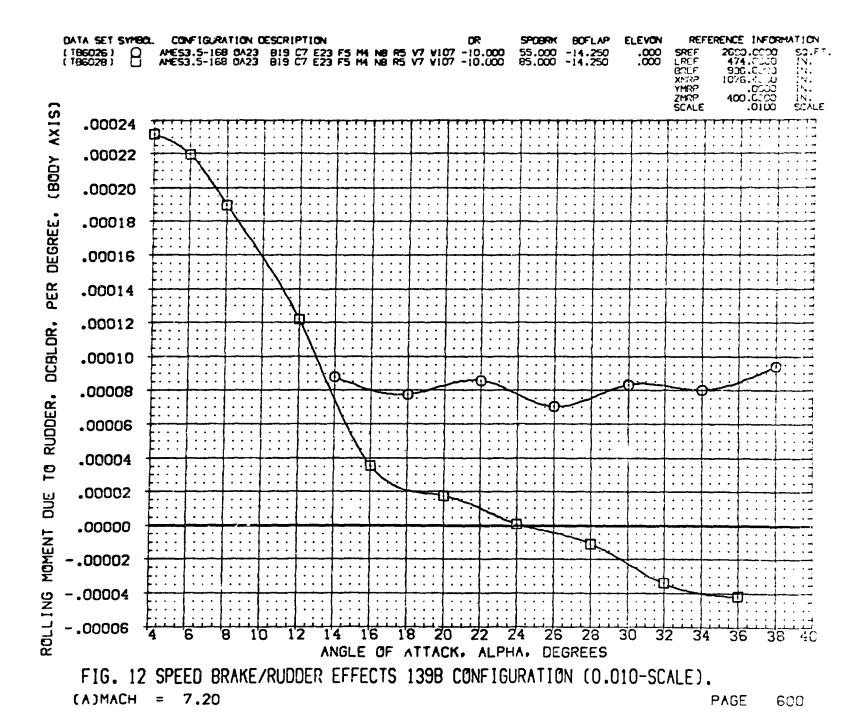




PAGE

599

(A)MACH = 7.20



APPENDIX

以外,一个是一个是一个人,我们就是一个人,我们也不是一个人,我们也不是一个人,我们也不是一个人,我们也不是一个人,我们也不是一个人,我们也会会会会会会会会会会, 一个人,一个人,我们就是一个人,我们也不是一个人,我们也不是一个人,我们也不是一个人,我们也不是一个人,我们也不是一个人,我们也不是一个人,我们也不是一个人,也

[]

TABULATED SOURCE DATA

Tabulations of plotted data are available on request from Data Management Systems

7.320

40.811

GRADIENT

1.22820

.01716

# TABULATED DATA LISTING FOR CARS (ARC 3.5-166)

			MES	3.5-158 CA	23 B22 C7 E	23 F5 M4 R5	V7 W107		(R8600	1) (13 3	EP 73 )
	REFERE	NCE DATA							PARAMETRIC	DATA	
SREF = UREF = BREF = SCALE =	2690,0000 5 474,8000 1 936,6800 1 ,0150 5	N. YMRP N. ZMRP	= .0	900 IN. 900 IN. 900 IN.				BETA = AILRON = SPOBRK =	.000 .000 55,000	ELEVON = BDFLAP = RUDDER =	.000 -14.250 .000
	*****	HUN N	0. 10/0	RN/L =	1.91 GRAI	DIENT INTER		00/ 5.00			
MACH	ALPHA	ON .	CA	CLM	a	Ø	æ1	CPS	CP3	CP4	CP5
5,260	2,009	03007	.08569	02011	03306	.08459	.02873	-551,34600	03967	03253	03520
5.280	5.001	.03369	.08932	01620	.02644	.98298	01068	-550.49600	04099	03427	03670
5,200	2.715	.11720	.07414	01117	.10461	.09104	02613	<b>-550.609</b> 00	04165	-,03492	03746
5,260	12.815	,22965	.07054	00718	.20828	.11972	03820	-550.31800	04203	03596	03877
3,260	16.823	.35165	.06665	- ,00707	.31731	.16557	03856	-542.59400	04212	03705	03835
5,260	20.532	,46406	.06379	00830	.41221	.22250	04094	-531.28300	04155	03991	03998
5,260	24.535	.62650	.06464	01036	.54309	.31896	03847	-537.44300	04119	03658	03762
5.260	28.760	.78864	.06403	01669	.66073	.43568	03826	-532.47700	04060	03706	03713
5.280	32,738	.95512	.⊆635⊎	02505	.76902	יטני <b>75.</b>	03827	~532,53700	04923	03572	03787
5.260	36,808	1,12276	.06257	03516	.86144	.72278	03759	-530.86100	93883	03653	03724
5.260	40,824	1.28571	.05975	04624	.93366	.88573	93585	-529.51400	03771	03494	63461
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.99900	.00000	.00000	.00000	.00000
		RUN N	0. 22/0	RN/L =	1.74 GRA	DIENT INTER	RVAL = -5.	00/ 5.00			
MACH	ALTHA	ON	CA	CLM	a.	Ф	<b>♂</b> 1	CP2	CP3	CP4	CP5
7.320	1.513	04065	.07886	02782	04272	.U <b>7776</b>	01881	01943	01544	01473	01506
7.320	1.917	-,03463	.07824	02663	03722	.07704	01444	01590	01963	01175	01282
7.320	4.936	.01771	.07197	01888	.01145	.07323	01597	01677	02053	01313	01408
7.320	8.729	.C8874	.06642	00925	.07763	.07912	01607	01737	02053	01304	01461
7.320	12.858	.18480	.D6196	.00012	.16638	.10153	02038	02088	01816	01710	01731
7,320	16.810	,30439	.06116	.00739	,27370	.14658	01677	01807	02047	01371	01471
7.320	20.544	.41767	aD6054	.01162	.36987	.20326	02055	02088	01860	01690	01732
7.320	24.543	.57333	.06212	.01367	.49572	.29466	01725	01816	01924	-,01204	01389
7.320	28,863	,72957	.D3944	.01301	.61025	.40424	01947	01959	01795	01600	01588
7,320	32.797	,89128	.07054	.00872	.71641	.53366	01820	01830	01668	01558	01464
7.320	38,908	1.06676	.05927	.00118	.81739	.68803	01625	01711	01572	01470	01346

.05756

-.00204

-.00507

.00259

.89198

.01534

.84627

-.00130

-.01079

.00033

-.01182

.00037

-.01099

-.00104

-.00938

.00012

-.00876

DA 78	 MEP.	74

## TABULATED DATA LISTING FOR CA23 (ARC 3.5-168)

AMES3.5-166 CA23 822 C7 E23 F5 N4 R5 V7 MID7

(RB6001) ( 13 SEP 73 )

.00000

.00000

GRADIENT

.00000

.00000

.00000

	REFERE	WCE DATA							PARAMETRIC	DATA	
<b>3007</b> *	2000.0000 8	B.FT. ×980₽	= 1076,4	800 IN.				BETA =	.000	ELEVON =	.000
UKEF =	474.8000 II	N. YHOP	= .0	020 IN.		•		AILRON =	.000	BOFLAP =	-14.250
BREF :	936,6800 1	. ZHRP	= 400.0	900 IN.				SPOBRK =	55,000	RUDDER =	.000
SCALE =	.0150 54	CALE									
		RUN I	<b>10.</b> 2/0	RN/L =	1.86 GRA	DIENT INTER	WAL = -5.0	00/ 5.00			
KACH	ALPHA	OH	CA	CLM	a.	Œ	OP1	CP2	CP3	CP4	CP5
10.290	1.961	03346	.07703	02760	03607	.07584	00126	.00096	00900	.00521	.00094
10.290	5.009	.01523	.07009	-,02034	.00905	.07115	00231	.00049	00871	.00426	.00012
10.290	8.695	.08225	.06425	01097	.07160	.07595	00274	.00911	00823	.00€10	.00013
10.290	12.604	.17581	.06038	00148	.15896	.09784	00378	00060	00769	.00425	.00012
10.290	16,795	.29022	.05474	.00495	.26203	.13626	90378	<b>00</b> 00 <b>6</b> 0	00643	.00344	.00114
19.290	20.533	.40102	.05933	.00388	.35473	.19621	~.00735	00473	00401	00204	00339
10.290	24.397	.56017	.05386	.01088	.48791	.28043	00385	00003	00403	.00597	.00696
10.290	28.664	.73140	.05255	.00865	,61656	.39695	00349	00035	~.00307	.00482	.00919
10.290	32.549	.88836	.04483	.00494	.72473	.51576	00275	00060	00091	.00769	.00696
10.290	36.661	1.05752	.06312	00534	.81064	.68206	00084	.00196	.00197	.00655	.00697
10.290	40,701	1.22295	.06215	01513	.88662	.84461	.00591	.00600	.00511	.01140	.00921

.00000

.00000

.00000

.00000

# TABULATED DATA LISTING FOR GA23 (ARC 3.5-168)

AMESS.5-168 CA23 B22 C7 E23 F5 N4 R5 V7 W107

(RB6002) ( 13 SEP 73 )

			AMES	13,5-168 CA23	BZZ C	7 EZ3 F3 M4 R3	V/ W107		(8860)	)2) (13 \$	EP 73 )
	REFEREN	ICE DATA							PARAMETRI	DATA	
BREF = UREF = BREF = SCAUE =	2690,0000 54 474,6000 IN 936,6600 IN .0150 50	I. YHRP	= .0	800 IN. 000 IN. 000 IN.				BETA = AILRON = SPOBRK =	5,000 ,000 55,000	ELEVON = BOYLAP = RUDDER =	.000 -14.250 .000
		RUN	NO. 9/0	RN/L = 1	.45	GRADIENT INTER	VAL = -5.0	00/ 5.00			
MACH	ALPHA	ON	CA	CL <sup>44</sup>	a.	œ	CP1	ውያ	CP3	CP4	CP5
5,260	12.262	.19217	.06776	00678	.17340		03218	.25802	03812	02761	-,03263
5.260	13.439	.22626	.06729	00613	.2044		03278	.25762	03825	02835	03320
5.260	17,126	.34269	.06488	00588	.30836		03276	.25905	03830	02815	03334
5.260	20.944	.47271	.06289	00714	.41900		03768	.11337	03667	03213	03234
5,260	25.021	.64010	.06276	00944	.55349		03393	.25684	03731	02744	03299
5,260	2878	.80770	.06375	01570	,67646		03366	.25447	03607	02767	03214
3,260	32.820	.97896	.06306	02371	.73852		03209	.25946	03466	02713	03045
5.260	36,771	1,15434	.06104	03375	.88812		03176	.24605	03345	92850	02876
5.260	41.056	1.33958	.05619	04419	.97322		93087	.24141	03282	92781	02716
	GRADIENT	.04014	00030	00126	.02879		.00907	.00020	.00020	.00003	.00019
		RUN (				RADIENT INTER					
MACH	ALPHA	ON	CA	CLM	a.	0	<b>CP1</b>	CP2	CP3	CP4	CP5
7.320	12.023	.15301	.06337	00253	.13645		01818	01759	01805	01757	01617
7.320	13,228	.18528	.06302	00065	.16594		01838	01735	01804	01765	01665
7.320	17.139	.29925	.06102	.0/3560	.26798		01869	01790	01804	01859	U1 <b>6</b> 69
7.320	20.672	.42432	.06022	.03971	.37502		02184	02016	01802	01960	01860
7.320	25.052	.58398	.06121	.01111	.50312		019 <del>96</del>	01927	01856	01823	01740
7.320	28.929	.74052	.06167	.00966	.61829		01906	01876	01804	01756	01661
7.320	32,738	.90115	.06132	.00557	.7248		01838	01753	01674	~.01584	01517
7.320	36,904	1.06198	.05942	00281	.82952		01816	01688	01543	01797	01368
7.320	40.978	1.25673	.05762	01286	.91103		01679	01551	01395	01567	01245
	GRADIENT	.03828	~.00014	0/.024	.02762	.02619	.00005	.00006	.30012	.00907	.00013
		RUN I	NO. 8/0	RNL= 1	.79 (	RADIENT INTER	VAL = -5.0	00/ 5.00			
MACH	ALPHA	ON	CA	CLM	a.	Θ	Фi	CP2	CP3	CP4	CP5
10.290	11.984	.14595	.06406	00452	.12947	.09297	.00053	00199	00276	.00051	.00150
10.290	13.232	.17798	.06303	00223	.15883	.10209	00048	00217	00277	.00020	.00008
10.290	17.070	.28924	.06229	.00327	.25821	.14446	00061	00235	00278	.00057	.00052
10.290	20.691	.40534	.06261	-00477	.35707		00499	00496	00274	00359	00264
10.290	24.962	.57816	.06426	.00791	.49703		00120	00218	-,00157	.00125	.00303
10.290	28.780	.73913	.06581	.00422	.61614		99070	00102	00035	.00267	.00602
10.290	32.592	.90496	.06599	00013	.72691		00060	00088	.00047	.00269	.00550
10.290	36.745	1.09399	.06551	ÜJ9 <b>54</b>	.83743		.09030	-,00014	.00146	.09320	.00525
19,290	40.812	1.27120	.06299	02408	.92095		.00241	.00097	.00215	.00471	.00523
	GRADIENT	.03934	.00006	00051	.02845		.00007	.00012	.00019	.00017	.00024
										12001	

7,320

40.754

GRADIENT

1.12261

.01926

.06273

-.00413

.06368

.00092

.90945

.01789

.78037

-.00078 -.00010

-.00391

AMESS.5-168 CA25 522 CT E25 F5 N4 R5 VT WIGT

(RB6003) ( 13 SEP 73 )

-.01265 -.01420 -.01083 -.00998 -.00996

-.00056

-,00073

-.00079

	REFEREN	CE DATA							PARAMETRIC	DATA	
BREF = BREF = SCAUE =	2690.0000 54 474.6000 IN 936.6800 IN .0150 Sc	4. YHRP 1. ZHRP	<b>-</b> .0	800 IN. DOD IN. DOD IN.				BETA = AILRON = SPOBRK =	.000 .000 55.000	ELEVON = BOFLAP = RUDDER =	-49,000 -14,259 ,000
		RU.	<b>40.</b> 13/0	RM/L =	1.90 GRA	DIENT INTER	WAL5.0	00/ 5.00			
насн	ALPHA	ON	CA	CLM	a	<b>6</b>	<b>CP1</b>	G-5	CP3	CP4	CP5
5.200	1.916	-,07930	.10736	.00978	08284	.10464	03166	03341	03887	03012	03279
5.260	4.927	00966	.09545	.00886	01783	.09427	03435	03306	04066	03405	03528
5,260	8.628	.07664	.08545	.01141	.06295	.09598	03611	03563	04184	03497	03673
5,260	12.740	.18496	.07718	.01605	.16339	.11607	03754	03633	04243	03606	03789
5.260	16.768	.29848	.07071	.02064	.26538	.15381	03715	03669	04244	03638	~.03799
5.260	23,529	.41147	.06796	.02343	.36150	.20794	04183	04118	04110	04078	-,04062
5.2 <del>6</del> 0	24,454	.55085	.06748	.02862	.47351	.26945	03867	03849	04188	03649	03840
5.260	28.692	.69730	.06602	.03176	.57998	.39269	03052	03824	04108	03685	03790
5.260	32.627	.84502	.06559	.03231	.67631	.51985	03881	03847	04079	03793	03780
5,260	36,765	.99692	.06400	.03365	.76032	.64796	03747	03709	~.03834	03575	03601
5.260	40.775	1.14293	.06031	.03262	.82613	.79212	03627	03539	03692	03520	03373
	GRADIENT	.02313	00395	00031	.02159	00345	00069	.00012	00059	00131	00083
	•	RUN I	NO. 17/ 0	RN/L =	1.78 GRA	DIENT INTER	WAL = -5.0	0/ 5.00			
жон	ALPHA	ON	CA	CLM	a.	Ф	<b>P</b> 1	OP2	CP3	CP4	CP5
7.320	1.798	07765	.09932	00331	~.08073	.09664	01217	~.01539	01527	01105	01120
7,320	4.928	01736	.08640	00042	-,02471	.08459	01461	01572	01702	01333	01369
7.320	8.615	.06067	.07588	.00713	.04862	.08411	01598	01709	01789	0.494	01460
7.320	12.793	.16251	.06945	.01643	.14310	.10371	D1598	01700	01789	01489	01492
7.320	16.805	.27149	.06546	.02774	.24097	.14115	01598	01750	01789	01519	01493
7.320	20.531	.37845	.06479	.03606	.33168	.19340	01852	01902	01658	-,01746	01617
7.320	24.578	.52084	.06527	.04568	.44651	.27599	01551	01704	01658	01333	01377
7.320	29.707	.67177	.06506	.05384	.55795	.37974	01535	01677	01576	01341	01369
7.320	32,666	.81969	.06606	.05960	.65437	.49806	01492	01626	01449	01304	01269
7.320	36,763	.97074	.06382	.D6191	.73947	.63213	01387	01558	01271	01329	01166



ياطاني التجافيا ويوطح

DATE 11 SEP 74

GRADIENT

-.00395

.01839

.00119

# TABULATED DATA LISTING FOR CA23 (ARC 3,5-168)

PAGE 5

## AHES3.5-168 CA23 B22 C7 E23 F5 M4 R5 V7 WLD7

(RB6003) ( 13 SET 73 )

-.00085

-.00064

	REFEREN	ICE DATA							PARAMETRIC	DATA	
SREF =	2097,0000 84	FT. XHRP	= 1076.46	900 IN.				BETA =	.000	ELEVON =	-40.000
URDF =	474,8000 IN	I. YMRP	= ,00	000 IN.				AILRON =	.000	BOFLAP =	-14,250
BREF =	936,6890 1N	i, '2MRP	= 460.00	100 IN.				SPDBRK =	55,090	RUDDER =	.000
SCALE =	.0150 50	ALE									
		RUN N	0. 6/0	RN/L =	1.89 GRAI	DIENT INTER	VAL = -5.0	6/ 5.00			
MACH	ALPHA	ON .	CA	CLM	a.	0	<b>ሮ</b> 1	CP2	CP3	CP4	CP5
10,290	1.914	05696	.09654	00847	06016	.09458	00010	00142	00690	.00446	.00245
10,290	4,963	00089	.08448	00485	00820	.08409	00181	00253	00778	.00187	.00051
15,290	8.616	.07158	.07360	.00215	.05975	.08349	00430	00343	00891	.00160	00120
19.296	12.747	.16825	.06678	.01242	.14937	.10226	00451	00382	00771	.00113	00144
10,290	16,781	.28237	,06501	.02234	.25158	.14376	-,00452	00379	00695	.00141	00123
10.290	20,483	.38122	.06527	.93199	.33428	.19454	00743	00777	00529	00358	-,00429
10,290	24.487	.53785	.06730	.03906	.46158	.28418	00380	00333	00482	.00292	.00172
10,290	28.692	.68936	.06775	.04552	.57219	.39039	00396	00333	00410	.00213	.00286
10.290	32,587	.83498	.06974	.95985	.66598	50846	00223	00282	00289	.00517	.00286
10,290	36,664	.99510	.06998	.05522	.75643	.65033	.00106	00170	00067	.00795	.00287
10.290	40.751	1.15409	.06814	.05727	.82980	80498	.90253	,00070	.00157	.00312	.00415

.01704

-.00344

-.00056

-.00036 -.00029

-.00413

.01926

GRADIENT

.00092

-.00179

# AMESS.5-166 CA23 B22 C7 E25 F5 M4 R5 V7 MOT

(RB603A) ( 13 SEP 73 )

	REFERE	ICE DATA							PARAMETR I	DATA	
SAST S	2090.0000 84 474.6000 IN			800 IN. 000 IN.				BETA = AILRON =	<b>,000</b> ,	ELEVON = BDFLAF =	-40,000 -14,250
BREF = BCALE =	936.6600 IA	-	<b>= 400.0</b>	000 IN.				SPOBRK =	55,000	RUDD(R =	.000
		RUN (	NO. 13/ 0	RN/L =	1.90 GRA	RETAL TAGLO	VAL = -5.0	0/ 5.00			
MACH	ALPHA	ØN	CA	CLM	a.	æ	CP1	CP2	CP3	Cº4	C°5
5.200	1.916	-,07930	.10736	.00978	08284	.10464	03166	03341	03887	~.03012	0327
5.260	4.927	00966	.09545	.90886	01783	.09427	03435	03306	04066	03405	0352
5.260	8.528	.07664	.08545	.01141	.06295	.09596	03611	03563	04184	03497	0367
5.260	12,740	.18496	.07718	.01605	.16339	.11607	03754	+.03633	04243	03606	0378
5.260	16,768	,29848	.07071	.02064	.26538	.15381	03715	03669	04244	03638	0379
5.260	20,529	,41147	.06796	.02343	.36150	.20794	04183	04118	04110	04078	0406
5.260	24,454	.55085	.06748	.02862	,47351	.28945	93867	03840	04188	03649	0384
3.260	28,692	.69730	.06602	.03176	.57998	.39269	03852	03824	04138	03685	0379
5.260	32,627	.84502	.06559	.03231	.67631	.51085	03881	03847	04079	03793	0378
5.260	36,765	.99692	.06400	.03365	.76032	.54796	03747	~.03709	03834	03575	- ,0360
5.203	40,775	1.14293	.06031	.03262	.82613	.79212	03627	03539	03692	03520	~.0337
	GRADIENT	.02313	~.00395	00931	.02159	~.00345	00089	.00012	00059	00131	D'NU8
		RUN	NO. 17/ 0	RN/L =	1.78 GRA	DIENT INTER	WAL = -5.0	0/ 5.00			
MACH	ALPHA	ON	CA	CLM	a.	6	<b>CP1</b>	OP2	CP3	CP4	CP5
7.320	1.798	07765	.09932	00331	- 08073	.D9684	01217	01539	01527	01105	0112
7.320	4,928	01736	.08640	00042	02471	.08459	01461	01572	01702	~.01335	0136
7.320	8.615	.06067	.07588	.00713	.04862	.08411	01598	01709	01709	01494	0146
7,320	12.793	.16251	.06945	.01643	.14310	.10371	01598	01700	01789	01489	0149
7.320	15.805	.27149	,D6546	.02774	.24097	.14115	01598	01750	01789	+.01519	0149
7,320	20.531	.37845	.06479	.03606	.33168	.19340	01852	01902	01658	~.01746	~.0161
7.320	24.578	.52084	.06527	04568ء	.44651	.27599	01551	01704	01658	01333	0137
7.320	28.707	.67177	.06506	.05384	.55795	.37974	01535	01677	01576	01341	0136
7.320	32,668	.81969	.06606	.05960	.65437	.49806	01492	01526	01449	01304	0126
7.320	36,763	.97074	.06382	.05191	.73547	.63213	01387	01558	01271	01329	0116
7.320	40.754	1.12261	.06273	.06368	.80945	.78037	01265	01420	01083	00998	~.0099
											,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,

.01769 -.00391

-.00078 -.00010 -.00056 -.00073





GRADIENT

· The Michigan of the Management of the comment

# TABULATED DATA LISTING FOR CA23 (ARC 3.5-146)

AFESS.	.5-1	36	QA23	822	(7	£23	F5	144	R5	٧Ţ	MOT	
--------	------	----	------	-----	----	-----	----	-----	----	----	-----	--

(RBG(3A) ( 13 SEP 73 )

-.00037

-.00050

	REFEREN	ICE DATA							PARAMETRIC	DATA	
SRET .	2000,0000 30	.FT. XMP	= 10%,4	900 IN.				GETA =	.000	ELEVON =	-40,000
UREF =	474,6000 IN	. YHRP	= .0	000 IN.				AILRON =	.000	BOFLAP =	-1426
DREF =	936,6600 IN	. ZHRP	= 400.0	000 IN.				SPOBRK =	\$5,000	RUDDER =	.000
SCALE #	.0150 90	ALE									
		RUN I	NO. 7/ U	RMVL =	1.85 GRA	DIENT INTER	IVAL = -5.0	00/ 5.00			
MACH	AL/PHA	ON	CA	CU1	a.	<b>O</b> D	σı	CPS	CP3	CP4	CP5
10.290	1.642	08116	.09856	00748	ù <b>s39</b> 5	.09619	00290	00453	00192	00049	00012
10.290	4,880	02349	.08474	90545	03062	.08244	00444	00472	~.00243	00170	00175
10.290	8.675	.05002	.07185	.00159	.03862	.07857	00647	00602	00444	00364	00434
10.290	12.799	.14768	.06571	.01064	.12945	.09600	00642	00645	00545	00338	00442
10.290	16,911	.26053	.06312	.02208	.23090	.13618	00642	00654	00562	00422	-,00446
10.290	20.572	.37960	.06458	.03012	.33270	.19385	00743	00729	00559	00462	00476
10.290	24,706	.51556	.06453	.03829	.44139	.27411	00578	00623	00580	00337	00433
10.290	28.849	.67167	.06642	.04487	.55626	.30226	00431	00517	00444	00109	00133
19.290	32,826	.83025	.96837	.05043	,66061	.50753	00285	00359	00343	99052	.00092
10.290	36,885	.98704	.06841	.05292	.74842	.64715	00079	00239	00197	.00441	.00138
10 200	40 740	1 13944	DESAU	05302	81972	.79425	.mana	-001.77	.maran	.00479	.nnas.

.01647

-.00425

-.00048

-.00006

-.00016

-.00427

.01781

.00063

والمراقب والم

# TABULATED DATA LISTING FOR QA23 (ARC 3,5-166)

## AMESS.5-168 CA2S B22 C7 E23 F5 M4 R5 V7 M107

(R84004) ( 13 SEP 73 )

## REFERENCE DATA

GRADIENT

.01815

-.00232

.00183

## PARAMETRIC DATA

		-05 04.11									
SMEF =	2000,0000 90	-	= 1076.46	10G IN.				BETA = AILRON =	.900	ELEVON = BOFLAP =	-20,000 -14,250
BREF . =	936,6600 IN	•		000 IN.				SPOBRK =	55,000	RUDDER =	.000
SCALE =	.0150 3/							- DD() -	050		.000
3CALE -	.0150 3	ALE									
		RUN P	iO, 24/0	RN/L =	1.86 GRA	DIENT INTER	VAL = -5.0	5,00			
MOI	ALPHA	ON	CA	a.H	a.	œ	OP1	CP2	CP3	CP4	CP5
7.320	1.651	05066	.08062	01616	05324	.07894	01151	01373	01589	01080	01017
7.320	4.943	.00546	.07344	01050	00389	.07364	01341	01387	01736	01227	01226
7,320	8.659	.07876	.06759	00031	.06769	.07868	D1461	01550	01753	01321	01291
7.320	12.818	.17486	.06368	.01214	.15637	.10089	01460	01559	01752	01312	01295
7,320	16,791	.28678	.06213	.02239	.25660	.14232	01460	01577	01713	01336	01286
7.320	20.489	.39015	.06100	.03044	.34411	.19370	01772	01783	01504	~.01524	01462
7,320	24.572	.53965	.06225	.03962	.46489	.28102	01460	01572	01621	01097	01240
7.320	28.716	.68821	.06233	.04637	.57362	.36533	01460	01558	01492	01098	01129
7.320	32.649	.83692	.06105	.05088	.67175	.50291	01385	01507	01343	00981	00988
7.320	36.791	.99555	.05933	.05174	.76173	.64375	01331	01446	C1151	01243	00933
7.320	40.816	1.14930	.05628	<b>,05</b> 073	.83302	.79381	01171	01257	00967	01105	00770

.01693

-.00172

-.00061

-.00004

-.00048

-.00048

-.00068



PAGE 9

(RB6005) . 13 SEP 73 )

-.03734

-.03503

-.02932

.00000

-.03550

-.03619

-.02991

,00000

-.04075

-.03903

-.03291

.00000

-.03939

-.03907

-.03172

.00000

المحاجب والمراجب والمعجب والمراهن ومعترف والمعارف والمعارض والمحاجب والمحاجب والمراجب والمراجب والمحاجب

5.260

5.260

5.260

المراجع المهرا محكمها فيعونهم الأصياب فالرحيب ماريون والراوان

32.703

36.769

49.833

GRADIENT

1.93758

1.21320

1.38348

.00000

.09603

.09878

.09953

.000000

-.10676

-.12330

-.14102

.00000

The state of the s

#### TABLEATED DATA LISTING FOR CA23 (ARC 3,5-166)

WESS,5-160 CAZS B22 C? E23 F5 M4 R5 Y7 MID?

PARAMETRIC DATA REFERENCE DATA .000 ELEVON = BREF = 2990,0000 \$0,FY, XHRP = 1076,4800 1N. BETA = 15.000 YMRP = .0000 IN. AILRON = .000 BOFLAP = -14.250 LREF = 474,8000 IN. 936,6800 IN. ' ZMRP = 400,0000 IN. SPOBRK = \$5,000 RUDDER = BREF = SCALE = .0150 SCALE RUN NO. 14/0 RN/L = 1.86 GRADIENT INTERVAL = -5.00/ 5.00 HACH ALTHA Oi ÇA CLM a. Θ Фı Œ2 CP3 CP4 CP5 5.200 1.977 -.01277 .08668 -.03287 -.01576 .08619 -.03376 -.03707 -.04050 -.03213 -.03412 .05339 -.03532 -.03589 5.290 5.019 .08179 -.73306 .04604 .08605 -.04169 -.03368 -.03580 .14473 .07893 -.03556 -.03584 -.03816 -.04210 5.260 8.674 .13117 .09986 -.03472 -.03662 12,777 .26248 .07866 -.04149 .23859 .13477 -.03709 -.03819 -.04300 -.03576 -.03601 5.200 5.260 16.803 .39756 .07997 -.05328 .35747 .19148 -.03724 -.03826 -,04332 -.03674 -.03613 5.260 20,399 .52750 26560. -.06056 .46555 .26150 -.03818 -.03840 -.04298 -.03727 -.03823 -.06341 .46714 .26341 -.04148 -.04163 -.04117 20,626 .52999 .08197 -.04156 -.04027 5.260 .36530 5,260 24.517 .69008 .08576 -.07393 .59186 -.03895 -.03851 -.04222 -.03729 -.03693 28.710 .86895 .09188 -.08979 .71799 .49801 -,03848 -.03927 -.04182 -.03779 -.03553 5,260

.82122

.91271

.96169

.00000

		RUN I	NO. 18/0	RN/L =	1,73 GRA	DIENT INTER	IVAL = -5.0	0/ 5,00			
MACH	ALPHA	ON	CA	CLM	a.	Θ	CP1	Œ2	CP3	CP4	CP5
7,320	1.965	01863	.07997	03512	02144	.07928	01316	01345	01842	01198	01179
7.320	5.092	.03661	.07422	03153	.03187	.07735	01411	01410	01855	01285	01303
7.320	8,740	.11656	.07198	02860	.10427	.08885	01474	01403	01851	01314	01344
7.320	12.833	.22780	.07165	02904	.20620	.12046	01474	01483	01851	01314	01377
7,320	16.964	.36204	.07477	03481	.32447	.17715	D1474	01483	01842	01364	01377
7.320	20.540	.47879	.07679	03891	.42141	.23990	01844	01721	01611	01613	01625
7.320	24.580	,64684	.08310	04827	.55366	.34464	01537	01537	01716	01322	01261
7.320	28.719	.61960	.08856	U596 <b>5</b>	.67622	.47150	01595	01620	01654	01363	01253
7.320	32.599	.98166	.09299	06983	.77691	.60721	01537	01620	01506	01222	01170
7.320	36.758	1.16070	.09529	08498	.87289	.77095	01341	01372	01200	01022	01004
7.320	40.819	1.72502	.09744	09861	.93906	.93987	00997	01124	00978	00747	00830
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	,00000

-.03813

-.03793

-.03269

.00000

.54140

.80534

.97990

10.290

#### TABLEATED DATA LISTING FOR CA23 (ARC 3.5-186)

-.11951

.00000

.10390

.000000

PAGE 10

.01316

.00000

AMESS.5-166 CA23 B22 C7 E23 F5 M4 R5 V7 MLD7

(RB9005) ( 13 SEP 73 )

REFERENCE DATA

1.35434

.00000

40.860

GRADIENT

PARAMETRIC DATA

.00953

.00000

.01155

.00000

والمتحدث والمتحدد

SRET =	2000,0000 36	.FT. XRP	= 1076.4	800 IN.				BETA =	.000	ELEVON =	15.000
UREF =	474.8000 II	4. YMRP	<b>= .0</b>	000 IN.				AILRON =	.000	BOFLAP =	-14.250
BREF =	936.6800 11	4. ' 2HRP	= 400.0	000 IN.				SPOBRK =	55.000	RUDDER =	.000
SCALE =	.0150 30	CALE									
		RUN F	<b>10, 3</b> / 0	RN/L =	1.84 GRA	DIENT INTER	VAL = -5.0	00, 5,00			
MACH	ALPHA	Ø	CA	Q.H	a	œ	O1	Cb5	CP3	CP4	CP5
10.290	1.980	01 <b>599</b>	.07714	03423	01864	.07655	.00421	.00172	00452	.00716	.00454
10.290	5,067	.03613	.07119	03135	.D31 <b>6</b> 9	.07428	.00276	.00097	-,00463	.00597	.00341
10.290	8,751	.11407	.06864	02894	.10230	.08520	.00198	.00041	00475	.00548	.00258
10.290	12.833	.22281	.06898	03175	.20192	.11674	.00129	00006	00467	.00490	.00227
10.290	16.785	.34782	.07216	03633	.31216	.1 <del>69</del> 53	.00105	00010	00493	.00491	.00227
10.290	20,448	.47550	.07599	04972	.41899	.23732	00176	00250	-,00068	.00026	.00071
10.290	20,562	.48086	.07471	04469	.42357	.23958	.00369	.00173	00619	.00822	.00444
10.290	24,513	.64751	.08406	05708	.55427	.34513	.00072	00047	00247	.00648	.D:3469
10.290	28.604	.82682	.09162	07384	.68204	.47628	.00131	00081	00138	.00934	.00635
10,290	32.571	.98985	.09683	~.08255	.78205	.61447	.30239	.00047	.00102	.00641	.00601
10.290	36,682	1.17333	.19070	10165	.88082	.78167	.00778	.00467	.00466	.00717	.00837

.95633

.00000

.96460

.000000

.01166

.00000

.01057

.00000



والمراجع والرابي الرواد والمعرفة والمعاملة والمعقورة والمدارية المكارون والمراس وواجعوا المعود والموا

and the second of the second of the second of





DATE 11 MEP 74

REFERENCE DATA

# TABULATED DATA LISTING FOR GAZS (ARC 3.5-166)

PAGE 11

# MESS.5-168 QA23 B22 C7 E23 F5 H4 R5 V7 M107

(RB6006) ( 13 SEP 73 )

PARAMETRIC DATA

		2000,0000 SO.FT.	<b>104R</b> P		1076,4800 IN.	<b>BETA</b>	2	,000	ELEVON :	-40,000
UNEF	3	474.6000 IN.	YHRP	z	.NI 0000.	AILRON	=	.900	BOFLAP =	.000
サン		936.6600 IN.	· ZHRP	=	400.0000 IN.	\$PDBRK	=	55,000	RUDDER =	.000
SCALE		.0150 SCALE								

		RUN	NO. 23/ L	) MOVE =	1.95 00	DIENI INIE	(AVC = -2'C	JU/ 5.00			
MACH	ALPHA	OH	CA	CLH	a.	0	O1	CP2	CP3	CP4	CP5
7,320	1,775	~,07605	.09995	00343	07911	.09754	01368	01 <b>699</b>	D1885	01514	01257
7.320	4.662	01492	.96673	00117	U2224	.98515	01672	01817	02980	01711	01537
7.320	8.610	.06330	.07536	.00594	.05130	.08398	01793	-,01936	02162	91781	01631
7,320	12,779	.16413	.06944	.01528	.14470	.10402	01799	01931	02162	01818	01656
7.320	16,794	.27877	.06582	.02413	.24787	.14356	01772	01991	02092	01711	01639
7.32)	20.472	.38783	.06545	.02975	.34044	,19 <del>69</del> 6	02156	02218	01900	02022	01840
7.520	24.554	.53862	.06604	.03618	.46246	.28390	01719	01940	01956	01571	01561
7,320	28.766	.69196	.96632	.04088	.57466	.39113	01703	01890	01901	01645	01507
7.320	32.678	.84039	.96638	.04361	.67154	.50961	01703	01894	01771	01620	01379
7.320	36.819	.99890	.06661	.04371	.75974	.65195	01608	01793	01557	01640	01263
7,320	40.872	1.15411	.96398	.04212	.83084	.80360	01439	01628	01396	01442	01057
	COADIENT	ni osa	- 00426	(33173	01431	- 00399	- 0000	- (77734	- 00063	- (VV)63	- INVIOUS

. . . .

.01692 -.00203

GRADIENT

AND THE PERSON NAMED IN COLUMN TO TH

.00181

.01571 -.00129 -.00059 -.00003 -.00043

# AMESS.5-160 CA23 822 C7 E23 F5 M4 R5 V7 VL07

and the second s

(RB0007) ( 13 SEP 73 )

-.00053

-.00058

	REFERE	CE DATA							PARAMETRIC	DATA	
BREF = DREF = SCALE =	2680,0000 56 474,8000 19 936,8800 19 .0150 56	i, YHRP	-	00 IN. 100 IN. 100 IN.				BETA = ATURON = SPOORK =	.000 .000 000, 88	ELEVON = BOFLAP = RUDDER =	.000 .000 .000
		RUN H	0. 11/0	86VL =	1.71 GRA	DIENT INTER	WAL = -5.0	5,00			
MACH	ALPHA	ОН	a	COH	a.	œ	O2	CP2	CP3	CP4	CP5
5.260	1.997	02752	.08427	02084	03044	.08326	.0 <b>65</b> 0a	02561	03665	03105	03207
5.200	5.051	.03495	.07848	01756	.02790	.08126	.02785	03381	03848	03210	03405
5.260	6.736	.11917	.07235	01324	.10680	.08961	01017	03586	03923	03379	03538
5,260	12.696	.22743	.06874	01144	.20676	.11705	03266	03599	03964	03413	-,03606
5.260	16.780	.35232	.06612	01274	.31823	.16502	03489	03619	03914	03488	03535
5,200	20.503	.47570	.06506	01845	.42278	.22756	03742	03836	03801	03734	03663
1,200	24,539	.63754	.06639	02277	.55238	.32517	03480	03563	03812	03368	03397
5.260	28.700	.80435	.06507	03175	.67428	.44335	03392	03542	03696	03193	03321
5,200	32.668	.97185	.06518	04352	.78273	.57972	03341	<b>0353</b> 0	03666	03454	03251
5.260	36,776	1.15068	.06430	05727	.88318	.74040	03302	03399	03585	03227	03138
5,263	40.874	1.31701	.D6196	07237	.95531	.90871	03058	03220	03447	03099	02953
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.000000	.00000	.00000
		RUN N	D. 21/0	RN/L =	2.45 GRA	DIENT INTER	VAL = -5.0	5,00			
MACH	ALPHA	ON	CA	Q.M	<b>a</b> .	œ	CP1	CP2	CP3	CP4	CP5
7.320	1.781	03616	.07774	02702	03856	.07657	01501	01632	01842	01228	01312
7.320	4.869	.01608	.07148	02142	.00995	.07258	D1684	01641	01977	01390	01493
7.320	8.623	.09350	.0657=	01201	.06258	.07902	01732	01732	01985	01488	01559
7.320	12.749	.19064	.06256	00291	.17214	.10309	01721	01751	01977	01444	01559
7,320	16.787	.31000	.06073	.00229	.27925	.14760	01722	01769	01973	01460	01559
7.320	20.470	.42841	.06066	.00363	.38014	.20665	02005	01906	01770	01643	01695
7.320	24.524	.58416	.06130	.00326	.50602	.29924	01816	01769	01856	01359	01486
7.320	28.748	.75259	.06172	00226	.63014	.41608	01706	01751	01748	01420	01436
7.320	36.790	1.08936	.05989	01869	.83653	.70036	01245	01237	01324	01039	01014
7.320	40.902	1.25079	.05664	02942	.90830	.86179	00611	00595	00676	00515	00268



. \*\*\*

## TABULATED DATA LISTING FOR CA23 (ARC 3.5-166)

PAGE 13

## AMESS.5-166 CA2S 822 C/ E23 F5 H4 R5 V7 VQQ7

والمراق المراق والمراق والم

(R86007) ( 13 SEP 73 )

.00000

.00000

GRADIENT

.00000

.00000

.00000

	REFEREN	ICE DATA							PARAMETRIC	DATA	
MEF = UREF =	2000.0000 84 474.0000 IN 936.6000 IN	I. YHRP	≈ .0	800 IN. 000 IN. 000 IN.				BETA = AILRON = SPOORK =	.000 .000 55.000	ELEVON = BOFLAP = RUDDER =	.000 .000
SCALE =	.0150 80										
		RUN N	D. 1/0	RN/L =	1.87 GRA	DIENT INTER	PVAL = -5.0	0/ 5.00			
MOH	ALPHA	CH CH	CA	a.H	a.	œ	<b>P</b> 1	œ۶	CP3	CP4	CP5
10.290	1,910	03034	.07776	02739	03291	.07671	00187	.00047	00692	.00901	.00263
10.290	5.018	.01677	.07041	02080	.01055	.07160	00192	.00004	00848	.00866	.00260
10.290	8,693	.08557	.06415	01209	.07489	.07635	00275	.00004	00828	.00928	.00348
10.290	12,716	.17972	.06119	00310	.16185	.09924	00334	.00004	00720	.00923	.00412
10.290	16,773	.29423	.06067	.00055	.26420	.14300	00334	.00029	00595	.00938	.GO754
10.290	20,468	40072	.05979	.00056	.35451	.19614	00769	00458	00399	.00309	.02499
10.290	24.502	.57061	.05910	.00052	.49472	.29042	00339	.00046	00375	.01128	.02076
10.290	28,641	.74270	.05686	90688	.62457	.40589	00275	.00025	00278	.01052	.02996
10.290	32,572	.90348	.06087	01503	.72861	.53768	00220	00017	00052	.00944	.04281
10.290	36,689	1.07453	.06495	03182	.82285	.69409	.00023	.00106	.00132	.00874	.03481
10.290	40,755	1.24432	.06341	04053	.90120	.86035	.00546	.00439	.00293	.00928	.03726

.00000

.00000

.00000

.00000

GRADIENT

.01766

-.00147

.00183

.01678

-.00061

-.00063

-.00015

-.00034

~.00059

-.00041

# MESS.5-166 CA23 B22 C7 E23 F5 M4 R5 V7 MIGT

(R86008) ( 13 SEP 73 )

والمرابع والمتعارف والمتعارف والمرابع والمتعارب والمتعارض والمتعارض والمتعارض والمتعارض والمتعارض والمتعارض والم

	REFEREN	CE UATA							PARAMETR 1	DATA	
BRET = LRET = BRET = SCALE =	2090.0000 90 474.8000 IN 936.6800 IN .0150 90	N. YHRP	= .0	800 IN. 900 IN. 990 IN.				BETA = AILRON = SPOBRK =	.000 .000 55.000	ELEVON = BOFLAP = RUDDER =	.000 13.750 .000
		RUN	NO. 12/0	RN/L =	1.71 GRA	DIENT INTER	NVAL = -5.0	0/ 5,00			
MACH	ALPHA	ON	CA	C)4	Q.	œ	OP1	CP2	CP3	CP4	CP5
5.260	1.915	02649	.08521	02377	02932	.08428	03472	03691	04037	03442	D3514
5,260	5,000	.03785	.07911	02187	.03081	.08211	03625	03618	04157	03369	03686
5,260	8.595	.12439	.07379	02055	.11197	.09155	03664	~.03783	04163	03575	03716
5,260	12,754	.23651	.07099	02129	.21500	.12145	03786	03798	04193	03654	03778
5,260	16,691	,36 <del>6</del> 97	.07033	02997	.33131	.17276	03781	03808	04180	D3663	03841
5,260	20,446	.59815	.07177	04413	.45107	.24476	04120	04127	04042	04048	03986
5,260	24,493	.65959	.07297	05067	.56998	.33985	03824	03868	04095	03639	03772
5,260	28,634	.83861	.07533	06762	.69994	.46799	03776	03833	03938	03645	03630
5,260	32.619	1.01001	.07834	08611	.80848	.61944	03691	03759	03819	03342	03496
5.260	36,752	1.19183	.07912	10458	.90758	.77653	03642	03687	03720	03435	03432
5.260	40.837	1.36537	.07813	12574	.98190	.95194	03456	03612	03658	03316	03309
	GRADIENT	.02085	00198	.00062	.01949	00070	00049	.90024	09039	.00024	00056
		RUN !	MO, 20/0	RN/L =	1.51 GRA	DIENT INTER	rVAL = -5.0	0/ 5,00			
MACH	ALPHA	ON	CA .	CLM	Œ	Œ	OP1	CP2	<b>CP3</b>	CP4	CP5
7.320	1.747	03389	.05616	02854	03558	.05510	01192	01415	01519	00982	01029
7,320	4.885	.02154	.05153	02261	.01707	.05318	01391	01461	01627	01167	01156
7,320	8,625	.09627	.04769	01488	.08803	.06159	01413	01506	01614	01069	31165
7,320	12,770	.20163	.04607	00975	.18646	.08950	01413	01520	01614	-,01155	01202
7.320	16,764	.32386	.D4526	00953	.29704	.13575	01392	01511	01597	01044	01153
7.320	20,470	.00483	.00328	00099	.00338	.0 476	3.49292	3.46958	3.48598	3,45495	3.47146
7.320	24.657	.61371	.04880	02053	.53739	.30038	01418	01561	01532	01961	01165
7,320	28,773	.78791	.05086	03247	.66614	.42363	01355	01506	01467	01098	01063
7.320	32.743	,95578	.05267	04479	.77543	.55126	01319	01479	01338	00971	01031
7.320	36,896	1.13314	.05290	05956	.87444	.72260	00874	01089	00950	00387	00556
7.320	40.912	1.23986	.04913	07050	.90482	.84910	.02697	.02709	.02329	.02707	.03082

and the second s

94

DATE 11 SEP 74

## TABULATED DATA LISTING FOR CA23 (ARC 3.5-168)

PAGE 15

## AMESS.5-166 OA23 B22 CT E23 F5 M4 R5 V7 W107

(R8600A) ( 13 SEP 73 )

-.00152

-.00039

## REPERENCE DATA

GRADIENT

.01620

-,00230

.00192

## PARAMETRIC DATA

SREF = GREF = SCALE =	2000.0000 S6 474.8000 IF 936.6800 IN .0150 SC	. YHRP		900 IN. 000 IN. 000 IN.				BETA = AILRON = SPOBRK =	.000 .000 000, 25	ELEVON = BDFLAP = RUDDER =	.000 13.750 .000
		RUN I	NO. 5/ 0	RN/L =	1.85 GRAI	DIENT INTER	VAL = -5.0	0/ 5.00			
MACH	ALPHA	OH	CA	Q.H	Q.	0	OP1	CP2	CP3	CP4	C)-5
10.296	1.825	03368	.07768	02951	03614	.07656	.00285	00020	00590	.00862	.00359
10.290	4.940	.01679	.07051	02353	.01065	.07169	.00148	00135	00623	.00390	.00237
10,290	8,629	.08703	.06551	01584	.07621	.07782	.00091	00134	00598	.00395	.00192
10.290	12.765	.18929	.06211	01256	.17088	.10240	.00002	00178	00571	.00298	.00206
10.290	16,746	.31137	.05386	01397	.27977	.15087	00003	00182	00482	.00451	.00370
16.290	20,483	.43728	.06698	02213	.38620	.21576	00285	00419	00308	00056	00114
10.290	24.528	.59852	.07103	03204	.51502	.31309	99006	00163	00264	.00711	.00881
10.290	28.723	.77877	.07577	04656	.64654	.44070	.99082	00133	00155	.00842	.00715
10.290	32,589	.95132	.07903	05573	.75897	.57898	.00215	.99929	.00096	.00531	.00785
10,290	36,751	1.13065	.07952	07747	.65835	.74023	.90886	.00564	.00504	.00967	.01061
10.290	40.898	1.30542	.07951	09695	.93468	.91477	.01163	.01023	.00871	.00910	.01065

.01502

-.00156

-.00044

-.00037

-.00010

. . .

..

والمجيم إشراب يهايه لاالماليكه ويحوها ومحرات للم

and the second of the second

Contract to the second of the second

and the second of the second

## AMESS.5-168 CA23 B22 C7 E23 F5 M4 R5 V7 W107

(RB6009) ( 13 SEP 73 )

	REFERE	NCE DATA							PARAMETRIC	DATA	
UREF = UREF = BREF = SCALE =	2000.0000 50 474.0000 10 930.0000 10 .0150 50	4. YMRF 4. ZMRP	= .00	800 IN. 800 IN. 800 IN.				BETA = AILRON = SPOBRK =	.000 .000 000, 22	ELEVON = BDFLAP = RUDDER =	15,000 13,750 .000
		RUN	NO. 15/ 0	RN/L =	1.98 GRA	DIENT INTER	VAL = -5.0	0/ 5.00			
MACH	ALPHA	ON .	CA	CLM	a.	<b>6</b>	OP1	CP2	CP3	CP4	CP5
9.260	1.914	00962	.08706	03710	01252	.08669	03566	03936	04179	03415	03615
5,200	4.921	.05816	.08/29	03951	.05972	.08897	03742	03799	04262	03495	03780
5,200	8.615	.15189	.07994	04510	.13820	.10179	03608	03978	-,04306	03588	03651
3.26	12.708	.27499	.08167	~.05733	.25029	.14017	03851	~.04908	04316	~.03734	03892
5,260	16,760	.41535	.08415	07427	.37344	.20035	03809	03979	04299	03770	03852
5.200	20.464	.55379	.08749	~.09265	.48826	.27559	04207	04213	04134	-,04125	04057
5.200	24.522	.72403	.09531	11549	.61917	.38721	03895	03941	04220	~.03723	-,03798
5.260	28.718	.90555	.10227	13966	.74502	.52481	03826	03994	04102	-,03602	03674
5.200	32.642	1.08151	.11008	16452	.85132	.67604	03792	03964	04003	03560	~ຸດ3554
5.260	36.798	1.26983	.11493	19012	.94798	.85265	03546	03766	03685	03166	03431
5.260	40.820	1.44283	.11752	21234	1.01505	1.03210	03029	03092	03001	02271	02528
	GRADIENT	.02254	00092	000000	.02103	.00076	00059	.00046	00027	00027	00055
		RUN	NO. 19/0	RN/L =	2.09 GRA	DIENT INTER	VAL = -5.0	<b>0/ 5.</b> 00			
MACH	ALPHA	ON .	CA	CUM	a.	Ф	OP1	CP2	CP3	CP4	CP5
7.320	1.796	00947	.08166	04000	01203	.08132	01199	01554	01964	00901	01288
7.320	5.069	.04695	.D7665	03533	.04000	.08050	01364	01569	02042	01051	01413
7.320	8.614	.12480	.07374	03458	.11235	.09160	01359	01610	02042	01035	01413
7,320	12.705	.23973	.07489	03989	.21739	.12578	01357	01609	02042	00979	01411
7,320	16.755	.37772	.07900	05080	.33891	.18454	01339	01602	01949	01042	01409
7.320	20.485	.50546	.08241	06371	.44465	.25409	02067	01966	01913	01812	01680
7.320	24.515	.68893	.09172	08326	.58877	.36931	01455	01694	01914	00968	01313
7.320	28.671	.87106	.D9943	10401	.71655	.50516	01450	01708	01911	00828	01303
7.320	32.599	1.04772	.10645	12542	.82531	.65414	01393	01626	01636	00887	01240
7,320	36.651	1.22992	.11135	14682	.92029	.82352	00939	01287	01217	00532	00699



Action for the 1882 - Marie Marie Marie Control of the 1884 of the

3.01749

.00000

GRADIENT

.26098

.00000

-.03059

.00000

2.11195

.00000

2.17095

J0000

.01567

.00000

.02410

.00000

.02795

,00000

.03342

.00000

.03160

## TABULATED DATA LISTING FOR CARS (ARC 3.5-166)

PAGE 17

₩E\$3.5-166 (	DA23	822	<b>C7</b>	E23	FS	144	<b>R</b> 5	V7	V1.07	

(RB60(9) ( 13 SEP 73 )

	REPERED	CE DATA							PARAMETRIC	DATA	
SREF = UREF = BREF = SCALE =	2000,0000 36 474,0000 17 936,6800 17 ,0150 56	i, YMRP	= .0	800 IN. 900 IN. 900 IN.				BETA = AILRON = SPOBRK =	.000 .000 55,000	ELEVON = BOFLAP = RUDDER =	15.000 13.750 .000
		RUN I	io. 4/ 0	RN/L =	1.75 GRA	DIENT INTER	VAL = -5.0	0/ 5.00			
MACH	ALPHA	CN	CA	Q.H	a.	Φ	<b>₽1</b>	CP2	CP3	<b>CP4</b>	CP5
10,290	1.849	01415	.07820	-,03606	01666	.07770	.00450	.00273	00974	.00956	.00306
10,290	4.945	.03789	.07227	03363	.03152	.07527	.00204	.00195	00974	.00683	.00181
10.290	8,638	.11741	.06991	03427	.10558	.08675	.00157	.00111	00938	.00669	.00133
10.290	12,700	.23147	.07055	04184	.21030	.11971	.00140	.00114	00804	.00745	.00135
10.299	16,758	.36739	.07300	05560	.33074	.17582	.00094	.00112	00728	.00731	.00203
10,290	20.468	.51100	.07806	07233	.45144	.25182	.00011	00016	00635	.00597	.00248
10,290	24,438	.67859	.08387	09464	.58309	.35709	.00004	~.00018	00511	.00568	.00476
10,290	28.583	.86547	.09058	-,11866	.71666	.49359	.00010	00017	00369	.00818	.00657
10.290	32,546	1.04222	.09031	14568	.82997	.63682	.00156	.00063	-,00136	.00870	.00591
10,290	36. <del>69</del> 2	1.22797	.09069	16970	.93047	.80645	.00737	.00378	.00234	.01081	.00928
10.290	40.709	1.40513	.12200	19599	.98556	1.00893	.01167	.01117	.00906	.01069	.01504
	GRADIENT	.01681	00191	.00079	.01556	00079	00079	00025	00000	00088	09041

The second second

AMESS.5-166 CA23 B22 C7 E23 F5 N4 R5 V7 M107

(RB609A) ( 13 SEP 73 )

	REFERE	DATA							PARAMETR 1	CDATA	
SAEF =	2690,0008 9 474,8000 1			1800 IN.				BETA = AILRON =	.000 000.	ELEVON = BOFLAP =	15.000 13.750
erep = scale =	936.6800 1 .0150 5		P = 400.0	0000 IN.				SPOBRK =	55,000	RUDDER =	.000
		RUN	NO. 15/ 0	RH/L =	1.96 GR/	DIENT INTER	RVAL = -5.	00/ 5,00			
нон	ALPHA	Ø1	CA	CUM	a	<b>G</b>	<b>ም</b> 1	CP2	CP3	CP4	CP5
5,200	1.914	00962	.08706	03710	01252	.03669	03566	03936	04179	03415	03615
5.260	4.921	.05816	.08429	03951	.05072	.08897	03742	03799	04262	03495	03760
5.280	8.615	.:5189	.07994	04510	.13820	.10179	03808	03978	04308	03588	03851
5,260	12,708	.27499	.08167	05733	.25029	.14017	~.03851	80000	04316	03734	03892
5,260	16,760	.41535	.08415	07427	.37344	.20035	~.03909	03979	04299	03770	03852
5.260	20.464	.55379	.08749	09265	.48826	.27559	04297	04215	04134	04125	04057
5.260	24.522	.72403	.09531	~.11549	.61917	.38721	03895	03941	04220	03723	03798
5.260	28.718	,90555	.10227	<b>~.</b> 13966 "	.74502	.52481	03826	03994	04102	03602	03674
5,260	32.642	1.08151	.11008	16452	.85132	.67604	03792	03964	04033	~.03560	03554
5.260	36.798	1.26983	.11493	19012	.94798	.85265	03646	03766	03685	03166	03431
5.260	40,620	1.44283	.11752	21234	1.01505	1.03219	03029	03092	<b></b> U30731	02271	~.02528
	GRADIENT	.02254	00092	00080	.02103	.00076	00059	.00046	00027	00027	00055
		RUN	NO. 23/ 0	RN/L =	2.21 GRA	אפוראו זאפוס	RVAL = -5.0	00/ 5.00			
MACH	ALPHA	ØN	CA	СLМ	a	00	OP1	ው2	<b>CP3</b>	CP4	CP5
7.320	1.768	01601	.08077	03843	D1849	.08024	00973	01362	01677	01018	01071
7,320	4,849	.04227	.07588	03577	.03571	.07918	01193	01403	01729	01255	01235
7.320	6.603	.12503	.07169	03422	.11287	.08978	01193	01430	01703	01116	01243
7.320	12.785	.24273	.07309	04048	.22054	.12500	01194	01426	01678	01137	01231
7,320	16.785	.37971	.07722	05224	.34123	.18359	01100	01418	D1 531	01105	01195
7.320	20.456	.50790	.08212	06468	.44718	.25445	01731	01774	01-56	01643	01443
7.320	24.552	.69230	.08955	08379	.59250	.36912	01194	01499	01562	~.00974	01092
7,320	28,693	.87506	.09784	10587	.72063	.50596	01196	01462	01477	00930	01086
7,320	32.709	1.05621	.10449	12767	.83226	.65868	01080	01363	01333	00774	~.01072

.10831

-,00159

-.14846

.00086

.92611

.01759

.82775

-.00034

-.00410 -.00860

-.00071 -.00013 -.00017

-.00774

1.23738

.01891

GRADIENT

-.00077 -.00053

11 3T	SEP 74	TABULATED DATA LISTING FOR CA23 LARC 3.5-1	68)
11 37/	9EP 74	TABULATED DATA LISTING FOR CA23 (ARC 3.5-1)	66)

AMESS.5-166 CA23 822 C7 E23 F5 M4 R5 V7 W207

(R8609A) ( 13 SEP 73 )

FERENCE BATA	PARAMETRIC DATA

URDF	= =	2690.0000 30.FT. 474.8000 IN. 936.6800 IN. .0150 SCALE	YHRP	=	.0000	IN.			BETA ATLRON SPOBRK	=	.000	ELEYON = BOFLAP = RUDDER =	
			RUN N	э.	4/0 8	8N/L =	1.75	GRADIENT INTERVAL =	-5.00/ 5.00	1			

MACH	AL/THA	ON .	CA	C.H	Œ.	00	CP1	CP2	CP3	CP4	CP5
10.290	1.849	01416	.07820	03608	-,01668	.07770	.00450	.00273	00974	.00956	.00308
10,290	4.945	.03789	.07227	03363	.03152	.07527	.00204	.00195	-,00974	.00683	.00161
10.290	8.638	.11741	.06991	03427	.10558	.08675	.00157	.00111	00938	.00669	.00133
10,290	12.700	.23147	.07055	04184	.21030	.11971	.00140	.00114	00804	.00745	.00135
10,290	16.758	.36739	.07303	05560	.33074	.17562	.00094	.00112	00728	.00731	.97,203
10,290	20.468	.51100	.07806	-,07233	.45144	.25182	.00011	00016	00635	.00597	.00248
10,290	24.438	.87859	.08387	09464	.58309	.35709	.00004	00018	00511	.00568	.00476
10,290	28.583	.86547	.09056	11866	.71666	.49359	.00010	00017	09369	.00818	.00657
10,290	32.543	1.04222	.09031	14568	.82997	.63682	,00156	.00063	00136	.00870	.00591
10.290	36.692	1.22797	.09069	16970	.93047	.60645	.00737	.00376	.00234	.01081	.00926
10,290	40.709	1.40513	.12200	19599	.98556	1.00893	.01167	.01117	.00906	.01969	.01504
	GRADIENT	.01681	00191	.00079	.0155€	00079	00079	00025	00000	000aa	UFX141

7.320

7.320

7,320

7,320

1.19735

1.36401

1.52644

1,68934

.04005

.05561

.05421

.05235

.05082

-.00022

-.0/487

-.05935

-.07411

-.09799

~.00208

.89422

.96119

.99987

.02397

1.02018

.79818

.96932

1.15457

1.34747

.03259

-.01150

-.0107E

-.01802

-.0617

.000321

39./193

42.965

47.143

51.147

GRADIENT

-.01179

-.01019

-.00908

-.00858

.00007

-.01020

-.00910

- .00714

-.00677

.00 .24

-.01235

-.01065

-.00969

-.00978

.00017

-.00693

-.00446

-.00109

.00173

			AFS:	3.5-168 CA	23 B19 C7 E	23 F5 H4 N	R5 V7 W10	7	(RB601	(0) (13.50	F 73 )
	REFERE	ENCE DATA							PARAMETRIC	DATA	
	2090,0000	-						BETA =	.000	ELEVON =	.000
UREF =	474.8000			000 IN.				AILRON =	.000	BOFLAP =	.000
BRET :	936,6800	-	= 400.00	990 IN.				SPOBRK =	55,000	RUDDER =	.000
SCALE =	,0100	SCALE									
		RUN I	NO, 55/ D	RN/L =	2,30 GRA	DIENT INTER	WAL = -5.0	00/ 5.00			
MOH	ALPHA	ON	CA	а <b>н</b>	a	8	OP1	CP2	CP3	CP4	CP5
5,2 <b>6</b> 0	12.240	.19751	.06740	01699	.17912	.10782	03499	03453	03719	03268	03392
5.260	15.296	.29277	.96614	~.02016	.26495	.14104	~.03536	03646	03765	03 <b>298</b>	03426
5,260	10.454	.45458	.06423	02455	.35744	.18899	03584	03644	03782	03267	03492
5.260	23,995	.58362	-06402	~.93027	.51174	.28782	03534	03573	03766	~.03258	03424
5.263	27.026	.74796	.06313	03895	.63681	.39567	93416	03524	<b></b> ∪3595	03326	03424
5.290	30.751	.89360	.06115	05112	.73669	.50947	03662	03710	03576	03626	03681
5.260	34.762	1.08733	.06130	06107	.85831	.67032	03445	03471	03553	03399	03609
5,260	39.027	1.27169	.05939	07670	.95051	.84691	03333	03377	03484	03434	03628
5.260	42,894	1.43441	.95785	08942	1.01149	1.01871	03258	03354	+.03430	03541	~.03608
5.200	47.060	1.60209	.05530	10611	1.05091	1,21050	03371	03227	0336a	03241	93387
5.260	51.086	1,75297	.05293	11903	1.05995	1.39722	02830	03123	03267	03162	03161
	GRADIENT	.04107	00034	00269	.02433	.03377	.00015	.00011	.00013	00001	.00001
		RUN I	<b>10.</b> 27/ U	RN/L =	1.77 GRA	DIENT INTER	VAL = -5.0	00/ 5.00			
MACH	ALPHA	ON .	CA	CLM	a	Ø	OP1	CP2	CP3	CP4	CP5
7.320	12.222	.16584	.06100	01266	.14917	.09472	01393	01465	01514	01188	01202
7.320	15.299	.24532	.05922	01410	.22100	.12185	01488	01570	-,01571	01131	01514
7.320	18.615	.36988	.05876	01031	.33177	.17376	01551	01552	01545	01250	01313
7.320	23,183	.52973	.05789	01071	.46416	.26175	01551	01488	01497	01168	61313
7.320	27.162	.68406	.05714	01413	.58254	.36311	01409	01359	01366	01139	01198
7.320	30.845	.81689	.05630	01826	.67248	.46717	01551	01474	01309	~.01203	01173
7.320	34.932	1.01486	.05663	028 80	.79958	.62755	01235	01158	01235	01143	00942



DATE IS S	EP 74	τ.	ABULATED DA	TA LISTIM	FOR CA23	(ARC 3.5-166	))			E 21	
			WESS	.5-168 OA	23 B19 C7	E23 F5 H4 N	RS V7 W101	•	(R8401	1) (13 %	CP 73 )
	TO THE	CE DATA							<b>FARAMETRI</b> C	DATA	
	2000,0000 50		= 1076,48					BETA =	000	ELEVON =	.900
UREF = 8827 =	474,6000 IN 936,6600 IN			00 IN.				AILRON =	.000	BUFLAP = RUCDER =	.000
SCALE =	.0100 9/		= 400,00	UU IN.				SPOBRK =	55.000	RUDDER =	.005
3CALE -	.0100 3										
		RUN N	0. 52/0	RN/L =	1.89 GF	RETINI THE LOAD	VAL = -5.0	00/ 5.00			
MACH	ALPHA	ON	CA	CUH	a.	00	<b>ም</b> 1	OP2	œ	CP4	CP5
5.260	12,300	.20773	.07046	02465	.18795	.11309	03475	03402	03643	03012	03540
5,260	15.346	.30917	.06971	03050	.27970	.14905	03511	03551	07452	03128	03542
5.200	18.622	.42569	.06921	03977	.38130	.20152	03560	03579	03651	03458	03633
5,2 <b>6</b> 0	23.082	.60437	.97960	05449	.52831	.30189	U347e	03501	0384	03407	03476
5.2 <del>0</del> 0	27,901	.77814	.07298	07007	.66060	.41750	03317	03478	03671	03062	~.03556
5.260	30.744	.94148	.06971	08910	.77354	.54119	03672	03722	03660	03646	03 <del>69</del> 9
5.260	34.758	1.13279	.07351	10729	.88876	.70G21	03296	03364	03576	03464	03546
5.260	38.976	1.32662	.07349	12614	.9851~	.89149	03227	03326	03534	03602	03432
5.260	42.760	1.50102	.07353	14351	1.05213	1.07308	~.02967	03255	03431	03525	03275
5,260	47,005	1.67792	.07248	16572	1,09122	1.27668	- ,02905	03091	03296	03284	02957
5.260	50.899	1.03315	.07155	18099	1,10061	1.46772	02800	02999	03230	u3387	02805
	GRADIENT	.04320	.90009	00421	.02534	.03573	.00019	.00013	.00017	00008	.00017
		RUN N	D. 28/ U	RN/L =	2.07 GF	MOIENT INTER	WAL = -5.0	00/ 5.00			
MACH	AUTHA	ON	CA	CLM	CL.	00	ው:	œ2	CP3	CP4	CP5
7,320	12.186	.17171	.06145	01840	.15487	.09631	01517	01665	01653	01376	01422
7.320	15.248	.26894	.06073	01879	.24350	.12933	01653	01742	01700	01466	01442
7,320	18.597	.37918	.06003	02048	.34024	.17782	~.01673	01765	01665	01424	01421
7.320	23,166	.55597	.06076	02623	.48724	.27457	01569	01734	01606	01385	01439

7.329 30.661 .86232 7.320 34,944 1.06172 7.320 38.965 1.24806 7.320 43.032 1.41964

27,061

47.091

51.150 GRADIENT

7.320

7.320

7.320

.06765 1.50708 .06782 1.74613 .06831 .04141 .00023

.06239

.06322

.06528

.06650

.71411

-.11351 -.13277 -.00301

-.03295

-.04291

-.05872

-.076/:8

-.09528

1.03087 1.04212 .02442

.60755

.70780

.83291

.92830

.99155

1.20861 -.00963 1.40272 -.00649 .03408 .00023

-.01606

-.01639

-.01339

-.01276

-.01120

.38044

.49660

.66164

.83686

1.01823

-.00839 -.01130 -.00785 -.00932 .00026 .00017

-.01489

-.01395

-.01393

-.01393

-.01394

-.01593

-.01730

-.01347

-.01320

-.01107

-.00482 -,00072 .00020 .0003:

-.01365

-,01546

-.01147

-.01180

-.01054

-.00817

-.01422

-.01424

-.01151

-.01053

-.00809

-.00453

7.320

7.320

43.071

51.133

GRADIENT

1.36143

1.68347

يترييها ويتراه ويهداوا ووالتا والمهورات والمتعا

.03962

#### TABULATED DATA LISTING FOR GAZS (ARC 3.5-166)

.05269

.04792

-.00027

-.03630

-.06150

-.00121

PAGE 22

A second

MESS.5-460 QA23	819 CT E23 F5 M4 NG R5 V7 W107	(RB9012) ( 13 SEP 73 )

REFERENCE DATA PARAMETRIC DATA SREF = 2090,0000 \$4.FT. >>RP = 1076,4800 IN. BETA = .000 ELEVON = .000 BOFLAP = .COOD IN. -14.250 LRET 474.6000 IN. YHRP = ATLRON = .000 ZMRP = 400.0000 IN. SPDORK = RUDDER = 55.000 .non BREF = 936,6890 IN. .0100 SCALE SCALE = RUN NO. 56/ D RN/L = 2.11 GRADIENT INTERVAL = -5.00/ 5.00 α. Œ Œ1 CP2 CP3 CP4 CP5 HAOH ALTHA CLM ON CA -.03274 -.01399 -.03344 .03699 -.03088 -.03309 5,260 12.267 .06806 .17994 .10878 .19894 5.260 15.294 .06590 -.01440 .26693 ~.03384 -.03464 -.03745 -.03074 -.03375 .29475 .14131 -.03554 18.513 .06401 -.01729 .36418 .18945 -.03513 -.03852 -.93318 -.03480 5.260 .40549 .28663 -.03318 5.260 23,068 .58145 .06391 -.02112 .50992 -.03616 -.03865 -.03236 -.03439 27.032 .74510 .06382 -.02453 .63470 .39548 -.03440 -.03541 -.03789 -.03231 -.03428 5,260 30,731 .69649 .06259 -.02246 .73861 .51192 -.03792 -,03767 -.03707 -.03734 -,03761 5,200 1.08885 .06171 -.03995 .85882 .67218 -.03380 -.03475 -.0365b -.03173 -.03437 5,260 34,606 .05893 -.D4977 .95257 .84581 -.03304 -.03372 -.03577 -.03297 -.03360 5,260 36,951 1.27252 .D5668 -.06190 1,01692 1.01991 -.03247 -.03326 -.03544 -.03365 -.03373 5.200 42,829 1.43914 -.07242 .05369 1.05480 1.21237 -.03131 -.03252 -.03435 -.03323 -.03245 5.200 47.061 1.60610 -,07975 5.260 51.029 1.75445 .05032 1.96430 1.39567 -.02911 -.03231 -.03329 -.02971 -.03110 GRADIENT -.00040 -.00178 .02449 .03383 .00010 .00006 .00011 -.00001 .000005 .04122 RUN NO. 29/ 0 REN/L = 1.80 GRADIENT INTERVAL = -5.00/ 5.00 MOH ALTHA O CA C.H a. 0 O1 œ2 CP3 CP4 CP5 -.01082 -,01541 7,320 12,205 .17002 .06040 .15341 **.**D9498 -.01435 -.01502 -.01379 -.01352 .05921 ~.00811 -.01552 -.01669 7,320 15.250 .25426 .22974 .12400 -.01615 -.01530 -.01412 .05811 -.00673 .32540 .17049 -.01593 -.01668 7.320 18.551 .36274 -.01614 -.01463 -.01403 .05748 -.00313 .46524 .26148 -.01587 -.01700 -.01579 7.320 23.155 .53058 -.01324 -.01350 7,320 27.161 .6e700 .05709 -.00391 .58518 .36441 -.01536 -.01638 -.01490 -.01473 -.01476 .05652 -,90661 .68251 .47332 -.01683 -.01686 -.01384 -.01560 7.320 30,839 .82865 -.01512 .05625 -.01448 .80036 .62807 -.01399 -.01453 -.01348 -.01273 7.320 34.953 1.01582 -.01341 .05415 -.02575 .89664 .79990 -.01276 -.01370 -.01221 -.01166 7,320 39.154 1.20036 -.01221

.95855

.02415

1.01908

.96823

.03177

1.34084

-.01216

-.00725

.00017

-.01300

-.01226

.00011

-.01133

-.00967

.00016

-.01067

-.00759

.00016

-.01069

-.00658

.00012

\_\_\_\_

4

the second of th

			_
DATE	11	227	74

#### TABULATED DATA LIGHTING FOR CA23 (ARC 3,5-166)

PAGE 23

NE33.5-1	44	Q423	819	C7	<b>Z23</b>	FS	N4	N	RS	V7	MOT

(RBG013) ( 13 SEP 73 )

#### REFERENCE DATA

#### PARAMETRIC DATA

with the wife of the second services and the second second

967		2000,0000	36.FT.	10 mg/	= 1076,480	D IN.				BETA =	.000	ETEACH =	10.000
URET	=	474.6000	IN.	THE	± .000	B IN.				AILRON =	,000	BOFLAP =	-14.250
DRET		934.6600	IN.	· ZHRP	= 400.000	IN.				SPORK =	95.000	RULOER =	.000
SCALE		.0100	SCALE										
				RUN N	0. 30/0	ROUL 2	2.09 GAA	IEMI IMIEN	VAL = -5.0	0,00			
MA	04	ALPHA		•	CA	Q.H	Q.	æ	OP1	<b>32</b>	CP3	<b>CP4</b>	CP5
7.	320	12.12	<b>8</b> ,1	6368	.U\$467	03092	.14663	.09766	01350	01503	01393	01106	01206
T.	320	15.25	5 .2	25971	.06446	03360	.23360	.13052	01476	01557	01501	01170	01210
7.	<b>32</b> 0	18.47	7 .3	7163	.06490	03817	.33190	,17933	01497	01560	01519	01379	01235
7.	320	23.14	1 .5	5119	.06728	04362	.48040	.27849	01497	01635	01502	01336	01232

7,320 27.152 .72207 .06878 -.05261 .61111 .39072 -.01476 -.01557 -.01389 -.01284 -.01379 7.320 30,820 .86409 .07064 -.05806 .70587 .50336 -.01607 -.01662 - 01302 -.01457 -.01469 7.320 34 .606 1.06359 .07391 -.07359 .83112 .65778 -.01435 -.01499 -,01260 -.01224 -.0:33e 7,320 39,076 1,25473 .07635 -.08807 .92594 .85019 -.01277 -.01417 -.01129 -.01166 -.01330 7,320 42,960 1,42170 .07854 -.10235 .98655 1.02670 -.01146 -.01363 -.00939 -.01923 -.01207 7.320 47.110 1,59680 .07964 -.11860 1.02843 1.22411 -.00968 -.01226 -.00740 -.00892 -.01207 7.320 51.158 1.75805 .08093 -.13739 1.03832 1.41851 -.00916 -.01090 -.00455 -.00749 -.90888 GRADIENT .04184 .00047 -.00271 .02454 .03442 .00013 .00011 .00024 .00010 .00004

The state of the s

₩ <b>E</b> 33.5-160 OA23	B19 C7 E23 F5 H4 H8 R5 V	7 W107
--------------------------	--------------------------	--------

(RBGD15) ( 13 SEP 73 )

	REPURE	CE DATA							PARAMETRIC	DATA	
SREF = LREF = BREF = SCALE =	2090.0000 96 474.8000 IN 936.66LO IN .0100 SC	i, YHRP	= 1078.48 = .00 = 400.00	00 IN.				BETA = AILRON = SPOBRX =	.000 .000 <b>55</b> .000	ELEVON = BOFLAP = RUDDER =	10,000 13,750 .000
		RUN I	O. 51/0	RN/L =	1.98 GRA	DIENT INTER	RVAL = -5.0	00/ 5.00			
MACH	ALPHA	ON	CA	CLM	a.	Φ	OP1	CP2	CP3	CP4	CP5
5,260	12.250	.23656	.07592	04653	.21507	.12439	03327	03379	03488	03167	03347
5.260	15.347	.34337	.07729	05907	.31067	.16541	03331	03434	03475	03194	03367
5.260	18.579	.46728	.07927	07423	.41767	.22402	03306	03400	03447	03177	03388
5.260	23.092	.65642	.08399	09511	.57094	.33462	03295	03379	03417	03124	03315
5.260	27.034	.84001	.08853	11901	.70799	.46066	03187	03386	03349	03281	~.03481
5,263	30.755	.99766	.08768	13386	.81252	.58552	03586	03688	93350	03600	03720
5.260	34.814	1.21558	.09704	16481	.94260	.77367	03302	03324	03354	03301	03657
5,260	38.992	1.41522	.10074	18857	1.03658	.96876	03205	03312	03293	03307	03647
5,260	42.927	1 59205	.10302	20915	1.09557	1.15972	03151	03246	03247	03396	03583
5.260	47,091	1.75885	.10529	23069	1.12719	1.36725	03049	03118	03115	03362	~.03402
5.260	51.131	1.94677	.10661	26277	1.13052	1.58275	02925	03156	03153	03111	03228
	GRADIENT	.04501	.00068	-,00555	.02545	.03813	.00009	,00007	,0000	00003	00002
		RUN N	<b>10.</b> 32/0	RN/L =	1.74 GRA	DIENT INTER	RVAL = -5.0	0/ 5,00			
MQI	ALPHA	ON	CA	CLH	a.	Ø	OP1	ውያ .	CP3	CP4	CP5
7.320	12.115	.18597	.06745	03472	.16767	.10498	00973	01197	01357	00825	00962
7.320	15,203	.28198	.06744	04167	.25442	.13903	01111	01229	01405	00837	טינטנט
7.320	18.440	.39987	<b>.</b> 06836	04890	.35771	.19133	01142	01229	01379	00760	01087
7.320	23.066	.57940	.07255	06202	.50466	.29376	01116	01220	01299	00779	00986
7.320	27,009	.75158	.07600	077038	.63510	.40902	01068	01150	01220	00837	01086
7.320	30,904	.9:378	.07741	09580	.74172	.53420	01225	01207	01086	01116	01097
7,320	34.780	1.10157	.08391	11358	.85691	.69728	00923	01062	01087	00704	00961
7.320	38.946	1.29145	.08953	13679	.94813	.88143	00907	00997	00955	00691	00635
7.320	42.870	1.45615	.09314	~.16049	1.01117	1.06574	00747	00825	00796	00711	00665
7,320	47.018	1.63993	,09637	18382	1.04755	1.26543	00588	00002	00633	00480	-,00552
7.320	51.064	1.79938	.09825	-,20862	1.05439	1.46140	00364	00589	00426	00265	00301
	GRADIENT	.04251	.00009	00452	.02449	.03547	.00016	.00015	.00024	.00011	.00016



The second of th

7.320

51 .248

GRADIENT

1.55073

.03727

.05493

-.00031

TABLEATED DATA LISTING FOR CARS (ARC 3.5-166)

PAGE 25

			AVES	3.5-166 QA2	3 819 67 6	23 F5 H4 N	R5 Y7 V40	7	(R\$40)	16) (13.1	EP 73 )
	REFERE	CE DATA							PARAMETRI	DATA	
<b>SACT</b> :	2000,0000 96	.FT. WRF	= 1076.4	800 IN.				BETA =	.000	ELEVON =	<b>-40.00</b> J
UKD* =	474,6000 IN	i, yer	<b>z .</b> 0	000 IN.				AILRON =	.000	BOFLAP =	13,750
BRE7 =	936,4600 19	i, '214RP	= 400.0	000 IN.				SPDBRK =	55.000	RUDDER =	.000
SCALE =	.0100 90	ME									
				_		_					
		RUN	NO. 33/0	RN/L =	1.29 GR/	DIENT INTER	RVAL = -5.	00/ 5.00			
MOI	ALPHA	ОН	CA	CLM	a.	æ	Øι	CP2	CP3	<b>CP4</b>	<b>₽</b> 5
7,320	12,105	.14620	.07140	00052	,12796	.10047	01558	01647	01895	01315	01428
7,320	15.164	.23579	.06845	00107	.20967	.12774	01616	01729	01921	01361	01448
7.320	18.451	.34040	.06670	.00157	.30179	.17101	01653	01729	01895	01385	01452
7,320	23.063	.90020	.06766	.00397	.43372	.25820	01558	01646	01769	01265	01501
7,320	26.991	.65228	.06884	.00420	.54999	.35730	01489	01563	01686	01286	01435
7.320	30,898	00052	00028	.00324	·· .00030	00051	4.46646	4.43977	4.42590	4.40163	4,59470
7,320	34.672	.96844	.07205	00092	.75335	.61281	01241	01371	01393	00782	01055
7,320	38,978	1.13621	.07302	00515	.63690	.77273	01002	01297	01328	00550	~.00733
7.320	42.953	1.29375	.07279	01012	.89731	.93484	00807	01233	01240	00195	00419
7,320	47,066	1,44829	.07206	01399	.93371	1.10946	00511	01077	01122	.00256	.00060
7,320	51.160	1.58913	.07173	02075	.94076	1.28276	00353	01146	.01109	.00541	.00432
	GRADIENT	.03798	.00012	00049	.02239	.03091	00010	00025	00019	.00007	.00005
								_			
			AFES	3.5-168 CAZ	3 B19 C7 E	23 F3 M4 M6	I KO AL MIN	r	(R <b>96</b> ))	.7) (13 5	EP 73 )
	REFEREN	CE DATA							PARAMETRIC	DATA	
<b>SET</b> =	2000,0000 50	.FT. WRP	= 1076.4	800 IN.				BETA =	.000	ELEVON =	-40,000
UNEF =	474,8000 IN	-	•	000 IN.				AILRON =	.000	BCFLAP =	.000
BREF =	936,6830 IN	-	= <b>400.</b> 0	000 IN.				SPOBRK =	55 ,000	RUDDER =	.000
SCALE =	.0100 90	ALE .									
		RUN F	<b>1</b> 0. <b>3</b> 4/0	RN/L =	1.83 GRA	DIENT INTER	WAL = -5.6	00/ 5.00			
					_	_					
MACH	ALTHA	OI	CA	C.H	a.	0	OP1	Q.S	OF3	CP4	CP5
7,320	12.151	.13209	.07063	.00496	.11427	.D9685	01345	01528	01660	01191	01305
7.320	15.272	.21853	.06724	.00996	.19310	.12243	01440	01546	01678	01117	01313
7,320	18,536	.32420	.06501	.01339	.28870	.16471	01440	01527	01660	01199	01305
7.320	23,164	.48219	.05367	.02117	.41827	.24821	01297	01431	01529	01186	01304
7.320	27.155	.63294	.06367	.02697	.53411	.34553	01281	01389	01406	01108	01304
7,320	31 .D11	.77515	.06181	.03167	.63251	.45234	01442	01442	01264	01506	01302
7.320	34,957	.94385	.06298	.03270	.73748	.59241	01111	01251	01248	00814	01030
7,320	39.150	1.11003	.06229	.03249	.82150	.74912	00963	01140	01136	00728	-,00815
7,320	43.035	1.25869	.05966	.02823	,87931	.90259	00688	01112	01002	00257	004#3
7,320	47,128	1.41374	.05788	.02702	.91945	1.07547	00396	00973	00835	.00067	-,00064

.02391

.00053

.92784

.02234

1.24373

.02952

-.00184

.00030

-.00955

.00016

-.00629

.00026

.90781

.00043

.00438

GRADIENT

.03640

-.00037

.00115

.02182

.02921

.00029

# AMESS.5-165 CA23 B19 C7 E23 F5 H4 NB R5 V7 WLOT

(R86016) ( 13 SEP 73 )

REFERENCE DATA	PARAMETRIC DATA

SREF = UREF = BREF = SCALE =	2690,0000 36 474,8000 18 936,6600 18	4. YHRP	= 1076.480 = .000 = 400.000	00 IN.				BETA = AILRON = SPOBRK =	.000 .000 55.000	ELEVON = BOFLAP = RUDDER =	-40.000 -14.250 .000
		RUN F	<b>10.</b> 53/0	RN/L =	1.88 GRA	DIENT INTER	<b>!VAL = -5.</b> 0	00/ 5.00			
MACH	ALPHA	Ol	CA	CU4	a.	œ	OP1	CP2	CP3	O°4	CP5
5,260	12.357	.15337	.06061	.01230	.13257	.11257	03376	03396	03973	02949	03484
£.2 <b>6</b> 0	15.363	.24574	.07608	.01359	.21676	.13854	03545	03585	~.04060	03267	03593
5,190	18.608	.35542	.07205	.01478	.31385	.18169	~.03605	-,03733	04135	03264	03654
5,260	23,193	.52337	.06952	.01760	.45369	.27002	03545	<b>~.036</b> 93	04027	03278	03590
5,250	27.190	.67711	.06835	.01932	.57106	.37020	-,03460	03578	03875	03212	03590
5.260	30.835	.63467	.06592	.01655	.68289	.48443	03033	03867	03840	03646	03840
5,260	34 .876	.99517	.06541	.01938	.77903	.62271	03435	03553	03781	03067	03457
5,260	39,036	1.16978	.06261	.01856	.86919	.78538	03220	03516	03639	~.02665	03132
5.260	43.015	1.32426	.05919	.01771	.92788	.94669	02957	03360	03502	02316	02739
5.260	47.D <b>6</b> 8	1.47606	.05572	.01672	,964 <b>6</b> 0	1.11866	02538	03223	0335G	01706	02190
5.260	51.183	1.61812	.05202	.01536	.97377	1.29337	02236	03377	03294	01111	01676
	GRADIENT	.03869	00064	.00007	.02318	.03105	.00029	,00007	.90021	,00046	.00043
		RUN A	<b>10.</b> 35/ D	RN/L =	1.84 GRA	DIONT INTER	WAL = -5.0	<b>5.</b> 00			
MACH	ALPHA	ON	CA	ам	a.	Φ	O1	<b>CP2</b>	CP3	CP4	CP5
7.320	12.075	.13048	.07049	.00781	.11285	.09623	01353	01509	01634	01221	01301
7.320	15.152	.21918	.06640	.01219	.19421	.12138	01465	01652	01752	01237	01301
7.320	18.327	.32030	.06477	.01815	.28368	,16220	01505	01661	01752	01204	01321
7.320	23.040	.47523	.06321	.02837	.41259	.24416	<b></b> 01 53	01 747	01603	01179	01301
7.320	27,086	.62313	.06224	.03579	.52644	.35s14	01358	-,01523	01489	01122	01301
7.320	30.934	.76363	.06201	.04166	.62313	.44574	-,01526	01646	01357	01387	01345
7.320	34 .839	.92148	.06223	.D4818	,72077	.57749	01225	01453	01357	01019	01175
7.320	39.008	1.08738	.06051	.04912	.80687	.73: *	01070	01351	01356	00858	00926
7,320	43,000	1 ,23512	.05786	.05124	.86386	.884 06	00848	01231	01224	- 00685	00606
7.320	47.106	1.38599	.05516	.05033	.90296	1.03294	00529	01005	60978	00298	00128
7.320	51 .213	1.52404	.05264	.04743	.91366	1.22094	00174	00968	00776	.00327	.00370

.00017

.00022

.00032



## TABLEATED DATA LISTING FOR CA23 (ARC 3.5-164)

#### AHES3.5-166 CA23 B19 C7 E23 F5 H4 NB R5 V7 WLO7

(RB618A) ( 13 SEP 73 )

			N-E-S3	.,5-136 UNZ	3 813 C. F	23 F3 P4 P6	K2 AL MIN	7	(MBeT 6	(A) (13 a	EP 73 )
	REFERE	ENCE DATA							PARAMETRIC	DATA	
BREF = BREF = BCALE =	2000,0000 8 474,0000 1 934,6600 1 .0100 8	IN. YMRF IN. ZMRF	.00	00 IN.				BETA = AILRON = SPORRK =	.000 .000 55.000	ELEVON = BOFLAP = RUDDER =	-40.000 -14.250 .000
		RUN	NO. 53/ 0	RN/L =	1.88 GRA	DIENT INTER	VAL = -5.0	00/ 5.00			
MOI	ALPHA	OH	CA	CLH	<b>a</b> −	00	<b>c</b> Pi	CP2	CP3	<b>CP4</b>	CP5
5,260	12,357	.15337	.06061	.01236	.13257	.11157	03376	03396	03973	02949	03464
5,260	15,363	.24574	.07608	.01359	.21676	.13854	03545	03585	~.04060	03267	93599
5,260	16,608	.35542	.07205	.01478	.31385	.18169	03605	03733	04135	03264	03654
5.250	23,193	.52337	.D6952	.01760	.45369	.27002	03545	03693	04027	03278	03590
5,280	27,199	.67711	.D6835	.01932	.57106	.37020	03460	03578	03875	03212	03590
5.260	30,835	.83467	.06592	.01655	.68289	.48443	03833	03867	03840	03646	03640
5,260	34,876	.99517	.06541	.01938	.77903	.62271	03435	03553	03781	03067	03457
5,260	39,036	1.16978	.06261	.01856	.86919	,78538	03220	03516	03639	02665	03132
5,260	43,015	1.32426	.05919	.01571	.92788	.94669	02957	~.03360	03502	02316	02739
5,260	47,068	1.47506	.05572	.01672	.96460	1.11866	02538	03223	-,03350	-,01706	02190
5.260	51.163	1.61812	.05202	.01536	.97377	1.29337	~.02236	03377	03294	01111	01676
	GRADIENT	.03 <del>869</del>	-,00064	.00007	.02318	.03105	.00029	.00007	.00021	.00046	,00043
		RUN	NO, 36/0	RN/L =	2.07 GRA	DIENT INTER	WAL = -5.0	00/ 5,00			
MACH	ALPHA	ON	CA	Q.M	a.	<b>G</b>	OP1	CP2	CP3	<b>CP4</b>	CP5
7.320	22.139	.43087	.06322	.021 <b>69</b>	.37528	.22093	01251	01377	01464	-,00898	01070
7.320	25.263	.54637	.06282	.02784	.46721	.29015	~.01340	01367	01391	00976	01169
7,320	28.961	.69232	.06187	.03449	.57565	.38957	01188	01273	01257	90853	00972
7.320	33.202	.85345	.96057	.04035	.68094	.51803	01407	01399	01077	01092	01043
7,320	37,204	1.03055	D61 61	.D4228	.75356	.67220	01094	01210	01019	00682	00563
7.320	40.999	1.18501	.05957	.04383	.85528	.82237	90812	00992	00816	00274	00207
7.320	44,987	1.34453	.05681	.04448	.91077	.99070	00518	00878	00539	.00042	.00293
7.320	49.133	1.49951	.05325	.04498	.94087	1.16882	-,00307	00904	00130	.00538	.00922
7.320	53,184	1.63186	.04943	.04487	.93832	1.33603	.00005	01074	.00330	.01123	.01483
7.320	56,103	1.71644	.04761	.04610	.91776	1.45126	00008	01291	.00485	.91328	.01537
7.320	58.301	1.76309	.04748	.05681	.88604	1.52502	.00258	01209	.00778	.01613	.01961
	GRADIENT	.03796	00047	.00069	.01481	.03753	.00046	.00008	.00062	,00076	.00091

## TABLE ATED DATA LISTING FOR GAZ3 (ARC 3.5-166)

PAGE 2

AMESS.5-160 CA23 B19 C7 E25 F5 H4 NB R5 Y7 W107

(R86019) ( 13 SEP 73 )

.00739

.00037

.00504

.00037

REFERENCE DATA

51 .099

GRADIENT

1,53649

.03655

.04601

~.00039

The same agree of an order of the order of the same of

.04006

.90100

PARAMETRIC DATA

SKEF :	2000,0000 36	I.FT. MRF	= 1076.40	00 IN.				BETA =	.000	ELEVON =	-30,000
UKEF =	474.8000 IN	i, YHRP	= .00	00 IN.				AILRON =	.000	BOFLAP =	-14.250
BREF =	936,6600 IN	i. ' 2HRP	= 400.00	00 IN.				SPOBRK =	55.000	RUDDER =	.000
SCALE =	.0100 SC	ALE									
		RUN	NO. 37/ 0	RMVL =	1.91 GRA	DIENT INTER	WAL = -5.0	00/ 5.00			
MACH	ALPHA	OH .	CA	au	a.	<b>6</b>	OP1	CP2	CP3	CP4	CP5
7.320	12.055	,14266	.06459	.00459	.12602	.09296	01279	01468	01353	01005	01106
7.320	15,154	.22652	.06216	.00977	.20239	.11921	01353	01505	01436	-,00972	01168
7,320	18,400	.32720	.06053	.01649	.29137	.16072	01389	01482	01435	01075	01131
7.320	23,049	,48285	.06027	.02636	.42071	.24450	01305	01468	01305	01021	01114
7.320	27.022	,62734	.05974	.03532	.53171	.33824	01199	01331	01196	00951	01229
7.320	30.707	.75627	.05909	.03997	.62006	.43699	01434	01406	01171	01286	01350
7.320	34,795	.92841	.05840	.04357	.72909	.57775	01120	01207	01078	00823	01060
7.320	36.989	1.09226	.D5646	.04579	.81346	.73110	00961	01193	01025	90543	90775
7,320	42.928	1,24614	.05371	.04455	.87586	.88804	00760	-,01064	00911	00279	00399
7,320	47,024	1,39521	.04990	.04259	.91459	1.05481	90460	01019	00798	00019	.00009

.92907

.02198

1.22464

.02945

-.00327

.00025

-.00831

.00016

-.00728



## TABLEATED DATA LISTING FOR CA23 (ARC 3.5-166)

PAGE 29

	AMESS.5-166 CA25	819 C7 E23 F5 M4 M8 R5 V7 W107	(R86020) ( 13 SEF
--	------------------	--------------------------------	-------------------

			NES!	3.5-160 CA	23 B19 C7 E	23 F5 H4 N6	25 V7 W107	,	(RB602	(D) (13 s	EP 73 )
	REFERE	CE DATA							PARAMETRIC	DATA	
SREF = UREF = BREF =	2890.0000 86 474,8000 IN 936.6000 IN	I. YMRP	= ,00	900 IN. 300 IN. 300 IN.				BETA = AILRON = SPOBRK =	,000 ,000 55,000	ELEVON = BOFLAP = RUDDER =	-20 .000 -14 .250 .000
SCALE =	.0100 50	TALE									
		RUN	NO. 54/ 0	RN/L =	2.01 GRA	DIENT INTER	WAL = -5.0	5.00			
MACH	ALPHA	OH	CA	CLM	a.	œ	<b>₽</b> 1	OP2	CP3	CP4	CP5
5,260	12,304	.17620	.06954	.00184	.15733	.10549	03273	03357	03656	03149	03340
5.260	15.326	.26732	.06771	.00367	.23992	.13596	03476	03574	03842	03256	03478
5.260	18,650	- 37370	.06381	.00514	.33367	.17996	03489	03630	03865	03263	03480
5,260	23.178	.54044	.06231	.00772	.47248	.27007	03473	03572	03831	03034	03343
5.2 <b>9</b> u	27.134	.69650	.06035	.90750	.59232	.37136	03360	03576	03725	03155	03377
5,260	30.003	.84109	.05748	.00573	.69301	.48008	03739	03803	03892	03586	03688
5.260	34.823	1.02241	.05653	.00354	.60703	.63025	~.03477	03507	03836	03403	03453
5.260	39.025	1.19370	.05276	00117	.89413	.79261	03236	03429	03724	03288	03241
5,200	42.922	1.35228	.04821	00414	.95742	.95620	03092	03283	03549	03149	02985
5.260	47.034	1.51129	.04290	01905	.99865	1.13515	02803	03093	03454	02852	02886
5,260	31.120	1.65957	.03857	01329	1.01167	1.31613	02482	02929	03387	02473	02688
	GRADIENT	.03919	00075	00042	.02358	.03171	.00019	.00013	.00009	.09911	,09017
		RUN	NO. 38/ 0	RN/L =	1.91 GRA	DIENT INTER	YAL = -5.0	0/ 5.00			
MACH	ALPHA	ON	CA	æн	a.	Œ	OP1	CP2	CP3	<b>CP4</b>	<b>CP5</b>
7.320	12.033	.14683	.06277	00073	.13052	.09200	01237	01409	01445	01050	01188
7.320	15.099	.23197	.06082	.00483	.20812	.11915	01349	01525	01534	01101	01196
7.320	18,326	.33037	.05993	.01116	.29477	.16076	01370	01520	01534	01935	01190
7,320	23.030	.48645	.05866	.02093	.42473	.24429	01321	01469	01411	01025	01188
7.320	27.036	.63123	.05748	.02914	.53613	.33813	01319	01362	01344	01093	01309
7.320	30.703	.76451	.05579	.03302	.62885	.43632	01477	01490	01270	01376	01359
7.320	34.784	.93937	.05516	.03579	.74004	.58119	01174	01268	01255	01034	01188
7.320	36.997	1.10432	.05194	.03372	.82557	.73530	01034	01173	01138	00976	01045
7.320	42.945	1.26097	.04840	.03181	.89007	.89452	00850	01073	01090	00756	00824
7.320	47.039	1.41703	.04356	.02764	.93383	1.06670	00576	00999	00947	OL 692	00661
7.320	51.119	1.55736	.03932	.02298	.94696	1.23701	00372	00741	00888	00592	00446
	GRADIENT	.D3696	00054	.00069	.02234	.02974	.00022	.00017	.00016	.00012	.00017

7,320

7.320

7,320

7,320

7.320

#### TABLEATED DATA LISTING FOR CA23 (ARC 3.5-166)

PAGE 30

AMESS.5-166 QA25 B19 C7 E25 F5 H4 N6 R5 V7 WLD7 (RB6021)

.59058 -.01648

-.01300

-.01237

-.00826

.00020

.75182 -.01532

.91651

1.09196

1.27235

.03065

-.01779

-.01505

-.01381

-.01367

.00914

-.0169

(RB6021) ( 13 SEP 73 )

REFERENCE DATA

PARAMETRIC DATA

<b>SMC7</b> =	2090,0000 30.	FT. MORF	= 1076.4	800 IN.				BETA =	.000	ELEVON =	-10.000
UREF =	474,8000 IN.	YHRP	= .0	000 IN.				AILRON =	.000	BOFLAP =	-14.250
BREF =	936,8600 IN.	ZHRP	= 400 ;	000 IN.				SPOBRK =	55.000	RUDDER =	.000
SCALE =	.0100 SCA	LE									
		RUN N	Ø. 39/0	RN/L =	1.91 GRA	DIENI INTER	RVAL = -5.0	00/ 5.00			
MACH	ALPHA	ON	CA	CLH	<b>a</b>	CD)	<b>CP1</b>	G <sub>2</sub> S	CP3	CP4	æs
7,320	12,096	.15298	.06042	00239	.13693	.09113	01634	01762	01669	D1499	01472
7,320	15,167	.23911	.03937	.00160	.21524	.11986	~.01761	01917	01799	01413	01521
7,320	18,375	.33693	.05821	.00678	.30141	.16145	91870	01917	01799	01450	01521
7,320	23,015	.49429	.05641	.01460	.43289	.24518	01781	01917	01772	01371	01464
7,320	27,028	.64452	.C5546	.01947	.54893	.34229	01754	01830	01668	01449	01648
7,320	30,739	.78629	.05393	.02216	.64825	.44825	01873	01915	01665	01454	01716

AMES3.5-168 OA23 B19 C7 E23 F5 M4 NB R5 V7 W107

.75664

.84886

.91549

.95731

.97550

.02298

(R96022) ( 13 SEP 73 )

-.01481

-.01387

-.01263

-.01090

-.00814

.00012

-.01610

-.01544

-.01346

-.01112

-.00778

.00013

REFERENCE DATA

34,806

39.016

42,965

47,065

51.117

GRADIENT

.95837

1.13283

1.29458

1.45134

1.60279

.03601

.05303

.04976

.04672

.04293

.03933 -.00966

-.00051 -.00015

.01840

.01322

.00662

-.00350

PARAMETRIC DATA

-.01667

-.01598

~.01537

-.01297

-.01171

.00013

SPET	=	2090,0000 99.FT.	X	HEP	Z	1076,4800 IN.	BETA =	.000	ELEVON =	.000
LREF	<b>x</b>	474,8000 IN.	Y	HRP	=	.0000 IN.	AILRON =	-10,000	BOFLAP =	-14.250
SEF	=	936,6800 IN.	Z	34 <b>7</b> P	=	400.0000 IN.	SPOBRK =	55,000	RUDDER =	.000
SCALE	=	DUDD SCALE								

RUN NO. 40/0 RN/L = 1.92 GRADIENT INTERVAL = -5.00/ 5.00

MAG:	ALPHA	ON	CA	CUM	a.	Œ	OP1	ው2	CP3	<b>CP4</b>	CP5
7.320	12,071	.16447	.06349	01363	.14756	.09648	01532	01595	01601	01224	01282
7,320	15,164	.29543	.06206	01435	.23030	.12672	01669	01732	01714	01269	01331
7,320	18,339	.36067	.06230	01265	.32294	.17268	01648	01737	01661	+.01306	01327
7,320	23.077	.52487	.06237	01173	.45842	.26311	01632	01741	01652	01290	01298
7,320	27,101	<b>.6</b> 8198	.06282	~.01305	.57848	,36661	01600	01654	01543	01330	01528
7.320	30.713	.82527	.06309	01720	.67730	.47573	01751	01739	01484	01567	01555
7,320	34,799	1.00757	.D6378	02556	,79097	.62740	01552	01589	01469	01231	01453
7.320	36.986	1.18771	.06309	03565	.88351	,79627	01394	01553	01469	01334	01367
7.320	42.941	1.35124	.06265	04658	.94651	.96638	01394	01374	01338	01198	0:280
7.320	47,029	1,52049	.06071	06069	.99200	1.15392	01256	01314	01198	00979	00966
7,320	51.120	1.67045	.05928	07445	1.00239	1.33759	01103	01209	01075	00665	00660
	GRADIENT	.03951	00005	00151	.0234?	.03227	\$1000.	.00012	.00014	.00010	.00011

The same for the same was to the same of t



## TABULATED DATA LISTING FOR GAZS (ARC 3.5-166)

AME 33 . 5-168	OA23	210	<b>CT</b>	E23	F3	144	NA.	8.5	V7 '	M. 177

(R86025) ( 13 SEP 73 )

							, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			,	
	REPERE	NCE DATA							PARAMETRI (	DATA	
SREP =	2000.0000 S			900 IN. 900 IN.				BETA = AILRON =	5.000 .000	ELEVON = BOFLAP =	.000 -14,250
SREF =	936,6800 1	N. ZMRF	= 400.00	000 IN.				SPORK =	55,000	RUDDER =	.000
SCALE =	.0100 30	CALE									
		RUN	NO, 57/ 0	RN/L =	2.18 GR/	ESTAI TASIO	RVAL = -5.	37/ 5.00			
MACH	ALPHA	ON	CA	aн	a.	C1	Φi	CP2	CP3	CP4	CP5
5,260	12.334	.19780	.06719	01416	.17886	. 10789	03363	03366	03614	03284	03386
5,260	15.373	.29104	.06517	01435	.26335	.13999	03556	03559	03808	03363	03571
5,260	18.564	.39861	.06368	01558	,35726	.18790	03586	03596	03849	03506	03714
5,260	23.245	.58080	.06366	02091	.50852	.28772	03629	03676	03813	03536	03810
5.260	27.180	.74404	.06364	02554	.63261	.39648	03640	03723	03838	03657	03909
5.203	30.805	.89325	.06135	02806	.73581	.51014	03703	03692	03678	03730	03633
5.260	31.027	.90909	.06231	03190	.74691	.52197	03472	03555	03739	03568	G3778
5.260	34.943	1.08252	.06084	04116	.85251	.66990	03377	03551	03737	03430	03644
5,200	39.122	1.26399	.05890	05149	.94345	.84323	03243	03552	03738	03361	03570
5,260	43.D96	1.42685	.05606	06061	1.00360	1.01579	03126	03359	~.03739	03480	03448
5,200	47.200	1.59329	.05318	07041	1.04353	1.20518	02878	03069	03458	03440	03122
5.260	51.219	1.73619	.05082	07614	1.04783	1.38527	02685	<b>029</b> 96	03461	03136	02655
	GRADIENT	.04075	00033	00173	.02408	.03354	.00020	.00012	.00007	.00003	.00014
		RUN	NO. 43/ 0	RN/L =	1.86 GR/	DIENT INTER	IVAL = -5.0	5,00			
· AQ1	ALPHA	ON	CA	CLM	a.	0	O1	CP2	CP3	CP4	CP5
.320	12.191	.15937	.06425	01131	.14221	.09645	01398	01478	01687	01161	01244
7.320	15.306	.24924	.06226	00844	.22397	.12585	01493	01648	01752	01252	01356
7,320	18.635	.35636	.06065	00792	.31832	.1 134	01556	01740	01831	~.0:351	01480
7.320	23,236	.52420	.05 <del>9</del> 83	00592	.45808	. 26179	01573	01704	01832	01491	01530
7.320	27.216	.67673	.06024	00553	,57427	.36306	01461	01652	01831	01400	01480
7.320	30,688	.81377	.05806	00018	.66855	.46758	01716	01773	01577	01678	01527
7.320	34.904	.99593	.05876	01441	.78315	.61807	01412	01601	01580	01147	01230
7.320	39.136	1.17823	.05685	02518	.87798	.78778	01274	01462	01567	01176	00989
7.320	43.087	1.34588	.05414	03735	.94595	.95891	01040	01241	01324	01175	00676
7.320	47.194	1.51420	.05137	05203	.99124	1.14581	00759	01046	01179	00939	00339
7,320	51.336	1.66468	.04785	06451	1,00265	1.32972	00440	00825	00961	00868	.00143
			-	00.55		-	200				

GRADIENT

.03944

-.00035

-.00133

.02357

.03202

.00023

.00018

.00019

.00009

AMESS.5-166 CA23 819 C7 E23 F5 M4 NB R5 Y7 W107

(R86026) ( 13 SEP 73 )

 	 	•
	114	TA

## PARAMETRIC DATA

30C7 :	=	2000.0000 84.FT.	X) FRE	E	1076,4800 IN.	BETA =	.000	ELEVON =	.000
LREF	=	474,8000 IN.	A HASIN	=	.0000 IN.	AILRON =	.000	BOFLAP =	-14,250
BREF		936,6600 IN. '	ZHRP		400.0000 IN.	SPOBRK =	55.000	RUDDER =	-10.000
	_	C1170 -C11 F							

R'N NO. 44/ D ROVL = 2.08 GRADIENT INTERVAL = -5.00/ 5.00

HACH	ALPHA	ON	CA	CLH	a.	0	OP1	CP.5	CP3	CP4	CP5
7.320	2,446	-,94060	.07886	02585	04413	.07705	01212	01310	01266	01020	00971
7.320	5.515	.00969	.07346	01869	.00279	.07407	-,01446	01471	01479	01063	01204
7,320	9.291	.08698	.06749	01228	.07492	.08065	01470	01487	01482	01192	01201
7.323	13,460	.16930	.06247	-,00642	.16956	.10482	D1526	01619	01547	01338	01266
7.320	17,401	.30709	.96055	~.00370	.27493	.14962	01579	01638	01565	01347	01258
7.520	21.137	.42876	.05852	-,00046	.37881	.20920	01765	01666	01483	01499	01389
7.320	25,205	.57840	.05885	00020	.49826	.29957	01604	01663	01532	01245	01258
7.320	29.416	.74201	.05916	00066	.61738	.41597	01611	01628	01487	01269	01381
7.320	33.275	.89708	.05776	00682	.71831	.54048	-,01535	01626	01479	01347	01327
7.320	37.439	1.06810	.05678	01495	.81356	.69440	01452	01532	01356	01379	01212
7.320	41.551	1.23173	.05583	02458	.88504	.85847	01302	01371	01251	-,01263	01097
	THEICURD	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

APES3.5-168 CA:3 B19 C7 E23 F5 M4 NB R5 V7 W107

(R86027) ( 13 SEP 73 )

#### REFERENCE DATA

## PARAMETRIC DATA

SHET	=	2000,0000 SQ.FT.	XHQP	2	1076,4800 IN.	BETA =	.000	ELEVON =	,000
LINEF		474,8000 IN.	YMERP	=	.0000 IN.	AILRON =	.000	BOFLAP =	-14.250
SPEP	Z	936.6600 IN. '	2467	=	400.0000 IN.	SPOBRK =	85,000	RUDDER =	.000

SCALE = .0100 SCALE

RN/L = 2.04 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	ON	CA	CLM	a.	Ф	OP1	CP2	CP3	CP4	CP5
7,320	2,362	04494	.08603	01759	04845	.08410	01414	01388	01286	D1117	01096
7.320	5.443	.00837	.07965	01151	.00078	.09009	01572	01561	01495	01305	01336
7,320	9.105	.08661	.07217	-,00664	.07430	.08500	01640	01697	01556	01416	01382
7,320	13.290	.18620	.06471	00300	.16634	.10578	01729	01724	01612	01379	01459
7,320	17,316	.30257	.06094	~,00026	.27072	.14824	01729	01752	01625	01481	01402
7.320	20.963	.42423	.05899	00052	.37497	.20699	01885	01832	01553	01672	01580
7,320	25,065	.57100	.05823	00091	.49246	.29482	01734	01751	01624	01534	01458
7,320	29.271	.73411	.05840	00130	.61182	.40988	01729	01697	01572	01387	01372
7,320	33.242	.88995	.05760	DO616	.71275	.53602	01728	~.01705	01528	01575	01335
7,320	37,431	1.06189	.05623	01505	.80905	.69008	01570	01678	01493	01574	01137
7,320	41.374	1.22590	.05554	02625	.88321	.85197	01350	01445	01363	01492	00911
	GRADIENT	.00000	,00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000





#### TABULATED DATA LISTING FOR GAZS (ARC 3.5-165)

PAGE 33

AMESS.	i-1 <b>66</b>	O423	810	CT F93	PS NA	NA R	5 V7	-1107

The state of the s

(RBQ)26) ( 13 SEP 73 )

	NEFERD	CE DATA							PARAMETRIC	DATA	
<b>3007</b> •	2000,0000	I.FT, MRP	= 1076,4	900 IN.				BETA =	.000	ELEVON =	.000
UREF *	474.8000 IF	i, yhre	= .00	000 IN.				AILRON =	.000	BOFLAP =	-14.250
erep =	936,6000 1	4. 214RP	z 400.00	000 IN,				SPOBRK =	65,000	RUDDER =	-10.900
SCALE =	.0100 \$6	CALE									
		RUN F	<b>49</b> / 0	RN/L =	1.93 GRA	DIENT INTER	WAL = -5.6	00/ 5.00			
MACH	ALTIN	CN	CA	CLH	αL	œ	<b>P</b> 1	CP2	CP3	CP4	CP5
7,320	1.996	04956	.06933	01080	05255	.08755	00920	01050	00966	00773	00767
7,320	5.065	00040	.08418	00279	00783	.08382	01062	01191	01.07	00875	00955
7,320	8.851	.08178	.07457	.00006	.06934	.08626	01140	01287	01':38	01030	00971
7,320	13.010	.18644	.06597	00167	.16681	.10625	01297	01367	01246	01153	01078
7.320	16.934	.30919	.06154	00169	.27786	.14893	01360	01423	9.267	01093	01016
7,320	23.648	.43032	.05855	00234	.38203	.20653	D1456	01482	C \231	01295	01195
7.320	24.757	.57879	.05888	.00150	.50094	.27,586	01327	01421	01287	01118	01001
7,320	28.964	.74193	.05842	00336	.62085	.41040	01285	01339	01239	01093	00952
7.320	32.678	.89652	.05756	00835	.72168	.53501	01231	01329	-,01234	01142	00827
7,320	36.989	1.06805	.05649	01896	.81912	.68773	01109	01203	01233	01194	00562
7.320	41.061	1.23566	.05613	02924	.89483	.85397	00977	01214	01233	01157	00314
	GRADIENT	.00000	.00000	.00000	.00000	.00000	,00000	,00000	,00000	.00000	.00000

## AFES3,5-168 QA23 B19 C7 F5 V7 R5 H4

(RB6029) ( 13 SEP 73 )

#### REFERENCE DATA

GRADIENT

.01759

-.00010

.00543

PARAMETRIC DATA

SEF :	Ł	2000,0000 SQ.FT.		MRP	=	1076.4800 IN.	BETA =	.000	BOFLAP =	-14.250
LREF :		474.8000 IN.		YMRP	=	.0000 IN.	SPOBRK ≃	55.000	RUDDER =	.000
SPET :	*	938,6000 IN.	•	ZHRP	=	400.0000 IN.				
SCALE :	2	.0100 SCALE								

RUN NO. 48/ U NAVL = 2.05 GRADIENT INTERVAL = -5.00/ 5.00												
MACH	ALPHA	ON	CA	CLM	a.	0	<b>CP1</b>	CP2	CP3	CP4	CP5	
7,320	11.999	.05178	.03653	.02659	.04264	.04845	01456	01626	01416	01338	01251	
7.320	13,099	.09113	.03543	.04261	.07876	.05794	01493	- ,D1 671	01476	01277	01259	
7.320	18.313	.14104	.03390	.06173	.12324	.07650	01560	01725	01523	01329	01270	
7,320	23,006	.21457	.03274	.08973	.18655	.11478	01555	01697	+.01470	01244	01243	
7,320	27.034	,26479	,03307	.11334	.23864	.15890	01560	0172:	01463	01030	01040	
7,320	30,723	.35341	.03277	.13409	.28707	.20872	01560	01743	01410	00919	00905	
7,320	34.614	.42839	.03399	.16003	.33231	.27248	01258	01490	01278	00559	00630	
7,320	36.975	.50829	.03368	.18457	.37397	.34589	01081	01397	01044	00259	00379	
7.320	42.950	.56550	.03366	.20199	.40562	.42357	00929	01282	00698	.00009	00164	
7.320	47.039	.65715	.03265	, 21 <del>59 9</del>	.42361	.50330	00677	01128	00465	.00275	00017	
7,320	51.075	.72231	.03108	.22999	.42966	.58145	00315	00861	00149	.00595	.00497	

.01393

.00028

.00019

.00032

.00051

.00044

PAGE 34

ANES3.5-168 CA23 819 C7 F5

(RB6030) ( 13 SEP 73 )

REFERENCE DATA

PARAMETRIC DATA

BETA = .000 BOFLAP = -14.250 BREF = 2000,0000 SQ.FT. MARP = 1076,4800 IN. YMRP = 474\_8000 IN. .0000 IN. 946,6600 IN. 2HR# = 400.0000 IN. **CRE7** \* SCALE = .0100 SCALE RUN NO. 47/0 RN/L = 2.05 GRADIENT INTERVAL = -5.00/ 5.00 MACH ALPHA ON CA CLM a 8 **P**1 CP2 CP3 CP4 CP5 7.320 12,008 .05501 .03247 .02192 .04705 .04320 -.01327 -.00822-.01340 ~.01279 -.01175 -.01295 7,320 15,055 .09431 .03140 .03822 .08291 .05482 -.01430 -.00737 -.01467 -.01379 .03063 .05830 .12549 .07390 -.01428 -.00634 -.01466 -.01364 -.01293 7,320 16.350 .14238 -.00429 -.01331 -.01332 -.01284 7.320 23.026 .21616 .03069 .08656 .18693 .11279 -.D1451 -.01292 7.320 27.020 .28726 .03005 .11375 ,24226 .15727 -.01337 -.00241 -.01213 -.01154 .13443 .20515 -.01276 .00482 -.01075 -.Di167 -.D1165 7.320 30.676 .34826 .03195 .28323 34,784 .42897 .03159 .16222 .33430 .27066 -.01019 .00247 -.00869 -.00841 -.00994 7.320 7.320 38.981 .50529 .03138 .18359 ,37304 .34226 -.30742 .00527 -.00602 -.00519 -.00791 7.320 42,908 .57860 .03110 .20299 .40262 .41670 -.00487 .00667 -.00528 -.00382 -.00581 .03006 .42321 .49792 -.00218 .00751 -.00383 -.00091-.00355 7.320 47,000 .65279 .21967

.42913

.01044

.57838

.01390

-.00095

.00036

.00665

.00045

والمحاج المحاج فراوا والمرام والحاج فرواه والمراج والمنطور المنطوط والمحاج والمحاج والمحاج والمحاج والمحاج والمراج والمراج والمراج والمحاج والمحاط وال

AMESS.5-168 CA23 B19 C7

.23290

.00562

(RB6U31) (13 SEP 73 )

.00032

.00038

-.00181

.09028

REFERENCE DATA

51.109

GRADIENT

PARAMETRIC DATA

.000

-.00487

.00030

MEF = 2000.0000 SQ.FT. XHRP = 1076.4800 IN. BETA = ATALACKYS IN.

.02912

-.00004

Y1458P = .0000 IN. 936.6600 IN. BREZ = ' 294RP = 400,0000 IN.

.71960

.01739

.0100 SCALE SCALE \*

7.320

RUN NO. 48/0 RN/L = 2.07 GRADIENT INTERVAL = -5.00/5.00

OP1 CP2 ALPHA ON. CA CLM a\_ 0 CP3 CP4 CP5 MACH .05824 .03289 .02260 .04818 .04383 -.01294 -.00585 -.01174 -.01159 -.01134 11.965 7,320 -.01309 15.092 .09470 .03162 .04099 .08320 .05518 -.00607 -.01261 -.01113 -.01142 7,320 .03114 .06067 .12476 .07411 -.01315 -.00530 -.01304 -.01343 -.01257 18.321 .14174 7.320 .03121 .09157 .18530 .11276 -.01319 -.00378 -.01260 -.01334 -.01256 23.051 .21465 7,320 7,520 27.030 .28455 .03131 .11967 .23924 .15721 -.01293 -.00082 -.C1104 -.01117 -.01182 .14381 7,320 20.719 .34875 .03298 .28297 .20650 -.01130 .00611 -.00994 -.01091 -.01128 34.782 .42487 .03309 .17124 .33008 .26955 -.00820 .00428 -.00740 -.00764 -.00858 1,320 .36645 .34051 -.00415 .00648 -.00596 -.00640 .9.004 .49908 .03397 .19653 -.00479 7.320 -.00083 .00786 7.320 42.956 .56887 .03401 .21741 .39317 .41254 -.00217 -,00402 -.00392 .49081 .00129 7,320 47.029 .63880 .03432 .23859 .41032 .00843 -.00107 -.00253 -.CU144 7.320 51.005 .70625 .ü5443 .25637 .41765 .57056 .00130 .00753 -.00228 .00183 .00104 GRADIENT .01701 BUUCH. .ÜÜ616 .01010 .01370 .00043 .00045 .00034 .00034 .00033



أناء المضيافة فحاليا الزياجيوة فيعاد فخيروا وبالرماها الصحابية يوهي الزاني موماتك

4 i

PATE	33	SEP.	74	

## TABULATED DATA LISTING FOR GAZS (ARC 3.5-166)

MESS.5-148 GA2S 819 CT E25 F5 H4 NS R5 VT HBDT

(R96032) ( 13 SEP 73 )

-	·	DATA

## PARAMETRIC DATA

Manufacture and the contract of the contract o

99E7 =	2000,0000 36	.FT. XHR	P = 1076.4	eda IN.				BETA =	5,000	ELEVON =	.000
UREF #	474.8000 II	N. YMR	P = .0	000 IN.				ATLRON =	.000	BOFLAP =	-14.290
BREF =	936.6600 1	N. ' ZMR!	= 400.0	000 IN.				SPOORK =	55,000	RUDDER =	.000
SCALE =	.0190 \$4	CALE									
		RUN	NO, 56/ 0	RN/L =	2.15 30	DIENT INTER	VAL = -5.0	5.00			
MACH	ALTHA	OH	CA	ан	CL.	æ	OP1	Œ2	CP3	<b>CP4</b>	œ
10.290	12.334	.14233	.00006	00691	.12622	.08907	.00436	.00346	.00156	.00709	.00796
10.290	15.416	.22935	.05949	00747	,20528	.11832	.00349	.00313	.00136	.00600	.00617
10.290	18.705	.33506	.05865	00473	.29856	.1 \$300	.00292	.00301	.00157	.00707	.00603
10.290	23.255	.50125	.05880	00350	.43731	.25152	.00288	.00323	.00193	.00726	.00615
10.290	27,286	.66184	.05912	00632	.56110	.35595	.00292	.00339	.00285	.00722	.00619
10.290	30.895	.80536	.06066	01605	.65995	.46557	.00158	.00136	.50324	.00306	.00306
10.290	34.974	.99142	.05941	01965	.77833	.6:696	.00435	.00463	.00.506	.00999	.01182
10.290	39.163	1.16753	.05897	03188	.86801	.7830\	.00688	.00535	.005e3	.01060	.01409
10.290	43,130	1.33665	.05796	-,04264	.93601	.95624	.00674	.00721	.00789	.02412	.01684
10.290	47.231	1.50223	.05580	-,05557	,97912	1.14067	.01225	.00653	.00664	.01147	.0175
10.290	51 .209	1.65926	.05307	~.06911	.99627	1.32794	.01357	.009?1	.00677:	.00966	.01974
-516.50	GRADIENT	.03993	00012	00157	.02395	.03229	.00025	.U0016	.00018	.00021	.00036

#### AMESS.5-166 CA25 B19 C7 E23 F5 H4 NB R5 V7 W107

(496033) (13 SEP 73 )

# · REPERENCE DATA

the control of the second section of the second section is a second section of the second section of the second section is

# PARIMETRIC DATA

SREF =	2000.0000 SQ.FT.	XXX	=	1076.4800 IN.	GETA =	.000	ELEVON =	.000
UEF =	474.8000 IN.	YHEF	=	.0200 IN.	AzLRON =	.000	BOFLAP =	-14.250
BREF =	936,4600 IN. '	29 <b>4</b> 0P	=	400.0000 IN.	SPDERK =	55,000	RUDDER =	.000
SCALE =	.0100 SCALE							

RLN NO.	59/ D ·	RN/L =	2.00	GRADIENT INTERVAL =	-5.00/	5.00

MACH	ALPHA	ON	CA	au.	a.	Ф	OP1	Œ	CP3	CP4	CP5
10.290	12.239	.14613	.05960	01615	.13013	.06942	.00226	.00005	00253	.00495	.00591
10.290	15,326	.23307	.05940	00754	.20906	.11889	.00046	-,000060	00279	.00456	.00275
10.290	18.579	,34280	.05672	00398	.30623	.16487	00002	00122	00279	.00424	.00275
10,290	23,066	.50063	.05941	00316	.44460	.25410	00021	-,00067	00170	.00372	.00276
10.290	27,176	.67075	.05901	00627	,54975	.35664	.00107	.00005	00069	.00440	.00277
10,290	30.827	.81851	.05601	01 <b>623</b>	.67314	.46926	-,00055	00128	.00093	AC;300.	.00210
10,290	34 .849	1.00481	.05052	02155	.79117	.62220	.00254	.00196	.00064	.00743	.00780
10,290	39.029	1.19145	.05793	02923	.88907	.79526	.00401	.00261	.00274	.00647	.01078
10,290	42,976	1.36570	.05651	04168	.96067	.97234	.00547	.00379	.00422	.00908	.01306
10,290	47,091	1.54206	.03337	06740	1.01060	1.16560	.00696	.00391	.00514	.00920	.01630
10,290	51,183	1.09062	.05134	06066	1.01975	1.34943	.00903	.00392	.00560	.00557	.01952
	<b>GRADIENT</b>	.04084	00018	00100	.02464	.03293	.00020	.00014	.00024	.00010	.00043

AFES3.5-166 QA23 B19 C7 E23 F5 M4 M8 R5 V7 W107 (RB6034) ( 13 SEF T3 )

REFERENCE DATA

PARAMETRIC DATA

SMEP = 2000,0000 80.FT. ≫6P = 1076.4800 IN.

BETA = .000 ELEVON = .000

LMEP = 474,8000 IN. YMRP = .0000 IN. AILRON = .000 80FLAP = .000 80FLAP

SCALE = .0100 SCALE

RUN NO. 40/0 RN/L = 1.67 GRADIENT INTERVAL = -5.00/ 5.00 CP5 MACH ALPHA CLH O1 CP2 CP3 CP4 ON CA Œ Œ 10.290 -.00210 -.00296 12.291 .00865 -.02016 .13027 .03724 -.00517 .00017 .13521 .D0348 10,290 15.344 .05031 -.01263 .20491 .10840 -.00299 -.00322 -.00547 .00236 -.nm95 .22629 -.00975 .16158 -.00333 ~.00339 -.00494 ~,00095 10.290 18.591 .33276 .D5855 .29673 .00183 10.290 23,183 .49905 .05797 -.01141 .43593 .24976 -.00795 -.00315 -,00426 .00223 .000017 19,290 27.126 .65976 .05818 -.01832 .56086 .35260 -.00192 -.00217 -.03322 .00235 .00018 -.00350 10.290 30.833 .83722 .05819 -.02793 .68907 .47998 -.00306 -.00127 -.00133 -.00086 10.290 34,836 1.00725 .05873 -.03607 .79319 .62358 -.00018 -.00044 -.00109 .00276 .00473 .05789 .80071 .00133 .00078 .00027 10,290 39.064 1.19925 -.04927 .89466 .00340 .00814 10.290 42.955 1.38525 .05746 -.06311 .97470 .98600 .DO166 .00085 .00159 .00378 .01051 10.290 47.075 1.54496 .05520 -.08416 1.01176 1.16888 .00470 .00213 .00185 .00654 .01447 10.290 51.147 1.71940 .05367 -,10437 1.03682 1.37267 .00652 .00291 .00198 .00438 .01843

AMESS.5-166 CA23 B19 C7 E23 F5 M4 No R5 V7 W107 (R86035) ( 13 SEP 73 )

.00023

.00017

.00022

.00007

. . . . .

.003048

the state of the state of

REFERENCE DATA PARAMETRIC DATA

.03414

SHEF = 2000,0000 SO.FT. MARP = 1076,4800 IN. ELEVON = BETA = .ouo .000 UMEF = 474.6000 IN. THEP = .0000 IN. AILRON = .000 13.750 BREF = 936,6800 IN. ' 24RP = 400.0000 IN. SPOBRK = 55.000 RUDDER =

SCALE = .0100 SCALE

**GRADIENT** 

.04177

.00053

والمراجع والم

-.00224

RUN NO. 61/0 - RN/L = 1,83 GRADIENT INTERVAL = -5,00/ 5,00

.02518

ALPHA CLM α. Ф CP1 CP2 CP3 CPS MACH ON CA CP4 -.02851 .14395 -.00152 12.281 -.01639 .01252 -.00331 -.00482 10.290 .14331 .00241 .00110 15.323 .23553 .01961 -.02257 .22198 .08116 -. Du 265 -.00403 -.00526 10,290 .00134 .00049 .34770 .04801 -.02370 .31422 .15643 -.00309 -.00407 -.00498 10,290 18.604 .00203 .00050 -.03012 10,290 23.196 .52362 .06275 .45676 .26400 -.00275 -.00399 -.00393 -.00004.00049 -.04290 .37587 -.00119 10.290 27.150 .69627 .06525 .58972 -.00255 -.00232 -00191 .00163 .85746 .06726 -.05839 .70158 .49754 -.00285 -.00322 .00014 10.290 30.858 -.00203 .00062 10,290 34,889 1.05016 .07022 -.07560 .82125 ,65829 .00044 .00022 .00076 .00372 .00681 10,290 39.043 1.22463 .07074 -,08667 .90657 .82635 .00192 .00355 .00142 .00522 .00940 10,290 42.961 1.41728 .07185 -.11170 .98786 1.01880 .00358 .00244 .00247 .00381 .01188 47.096 1.59778 .07211 -.13083 1.03490 1.21946 .00601 .00332 .00342 .00506 10.290 .01457 51.174 1.75943 .07159 -.14841 1.04732 1.41557 .00785 .00411 .00397 .00485 10,290 .01772 -.00334 GRADIENT .04264 .00170 .02511 .03534 .00026 .00923 .00026 .00010 .00046





Committee that the gray construction and a first the second of the contract of the second

₩.

DATE 11 MEP 74 TABLEATED DATA LISTING FOR OA23 (ARC 3.5-166)

-166) PAGE 37

(RB4034) ( 13 SEP 73 )

REFERENCE DATA	PARAMETRIC DATA

AMESS.5-160 CA23 B19 C7 E23 F5 N4 NB R5 V7 W107

#REF = 2600,0000 90.FT. MARF = 1078,4800 IN.

UREF = 474,8000 IN. YHR" = .0000 IN.

HILRON = .000 DOFLAF = 13,750

PREF = 938,6800 IN. ' ZHRP = 400.0000 IN.

SCALE = .0100 SCALE

RUN NO. 62/C RIVL = 1.86 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	ON	CA	Q.H	a.	œ	<b>₽</b> 1	Œ٤	CP3	CP4	CPS
		-				_					
10.290	12,274	.17454	.06519	03301	. 1 5 <b>669</b>	.10081	00207	00347	00542	.00078	00033
10.290	15.329	.27538	.06535	04016	.24631	.13583	00294	00405	00550	00035	00101
10.290	18,609	.39140	.06777	05065	.34931	.18912	00318	00405	-,00541	00062	00097
10.290	23,171	.57975	.97224	05719	.50456	.29453	00294	00405	00453	.00045	00059
10.290	27,188	.76490	.07809	08803	.64470	.41895	00186	00278	00312	.00075	00062
19,290	30.661	.92199	.98337	10787	.74850	.54476	00419	90398	00146	00245	00184
10,290	34,863	1.11540	.08899	12579	.86434	.71060	00044	90095	00069	.00176	.00179
10.290	39.073	1.32510	.09486	15243	.96894	.90888	.00079	.00012	.00053	.00157	.00249
10.290	43,017	1.50837	.09893	-,17746	1.03536	1,10136	.00247	.00200	.00179	.00331	.00296
10.293	47.085	1.70016	.10293	20663	1.08227	1.31524	.00400	.C *50	.00310	.00018	.00413
10.290	51.152	1.85754	.10415	24114	1.08404	1.51200	.00539	.00412	.00514	.00074	.00530
	GRADIENT	.04451	.00114	00530	.02569	.03705	.00021	.00022	.00026	.00004	.00016

/HES3.5-166 CA23 B19 C7 E23 F5 M4 NS R5 V7 W107 (RB6037) ( 13 SEP 73 )

## REFERENCE DATA PARAMETRIC DATA

RUN NO. 63/0 RM/L = 3.80 GRADIENT INTERVAL = -5.00/ 5.00

MOI	ALPHA	ON	CA	CH C	a.	0	<b>CP1</b>	CP2	CP3	CP4	CPS
10.290	12.246	.12266	.06637	.00441	.10579	.09066	00342	00505	00577	.00120	00161
10.290	15.346	.2.197	.06360	.00860	.18758	.11743	00488	00598	-,00637	00055	00236
10,290	18.562	.31137	.06294	.01549	.27509	.15888	00488	00555	00617	00127	00226
10.290	23.213	.47171	.06288	.02561	0674	.24371	00399	00504	00511	30019	00142
10.290	27,099	.61614	.06324	.03209	.519 <del>69</del>	.33697	00253	00377	00347	.00064	00112
10.290	30,785	.75893	.06242	.03026	.62004	.44206	00463	00500	00264	00343	00174
10.290	34,836	.92791	.06425	.04100	.72491	.53279	00047	00122	.00025	.00369	.00348
10.290	39.032	1.09303	.06304	.04427	.80998	.73782	.00100	.00005	.00215	.00416	.00736
10.290	42.966	1.24864	.06166	.04412	.67151	.89660	.00422	.00090	.00473	.01099	.01066
10,290	47,129	1.41296	.05973	.04228	.91 754	1.07617	.00689	.00152	.00600	.00938	.01452
10,290	51.163	1.53933	.05462	.03496	.92236	1.23361	.00984	.00136	.00909	.01264	.02144
	GRADIENT	.03745	00018	.00096	.02250	.03003	.00036	.00022	.06040	.00034	.00057

The state of the s

.000 ELEVON = -40.000

MESS.5-166 OAZS 819 C7 E23 F5 N4 N6 R3 V7 W107 (R86036) ( 13 SEP 73 )

#### REPERENCE DATA PARAMETRIC DATA

אומרו אוידיון טו כן מנא מ. ס	
SCALE = .0100 SCALE  RUN NO. 64/0 RN/L = 1.07 GRADIENT  HACH ALPHA ON CA CLM CL CD	A1LRON = .000 B0FLAP = ~14.250
RUN NO. 64/0 RN/L = 1,07 GRADIENT	SPOBRK = \$5.000 RUDDER = .000
MACH AUTHA OH CA CLUM CL. CD	
	T INTERVAL = -5.00/ 5.00
10.290 12.150 .11753 .07119 .00299 .09990 .0	D 0°1 0°2 0°3 0°4 0°5
	09600. 00800. 96000. 98000 58000 46490
10,290 15,276 ,19914 ,06673 ,00677 ,17452 ,1	11684 -,00117 -,00253 -,00048 ,00458 ,00287
10.290 18.507 .29660 .06653 .01295 .26015 .1	15724 -,00119 -,00255 ,00006 ,00516 ,00264
10.290 23.170 .45672 .06624 .02184 .39382 .20	24060 -,00065 -,00118 .00136 .00571 .00400
10.290 27.119 .60030 .06655 .02750 .50396 .3	33288 ,00018 -,00029 ,00236 ,00512 ,00479
10,290 30.818 ,75407 ,06461 ,02920 ,61450 ,44	441800007400131 .00347 .00352 .00394
10.290 34.946 .91409 .06772 .03737 .71048 .5	57910 ,00248 ,00201 ,00570 ,00775 ,00678
10.290 39.113 1.07487 .06518 .03976 .79288 .7	72866 .00446 .00426 .00787 .00891 .01112
10.290 42.995 1.23744 .06344 .03970 .86182 .8	89026 .00700 .00525 .01011 .01343 .01551
10,290 47,105 1,39817 ,06037 ,04132 ,90744 1,0	06540 ,00976 ,00551 ,01266 ,01601 ,02065
10,290 51.190 1.54708 .05669 .03313 .92544 1.2	24106 .01243 .00500 .01453 .01645 .02723
GRADIENT .0574900025 .00095 .02261 .03	70000, 20000, 90000, 20000, 60000

AFESS.5-166 CA25 B19 C7 E23 F5 M4 No R5 V7 W107

(RB\$023) ( 17 SEP 73 )

REFERENCE DATA

SMEF = 2000,0000 50,FT, XMF = 1076,4000 IN.

PARAMETRIC DATA

### ## 2600,0000 Se.FT. NAMP = 1076,4800 IN.

LREF = 474,8000 IN. YMMP = .0000 IN.

HETA = .000 ELEVON = -10,000

AILRON = -10,000 BDFLAP = -14,250

SREF = 936,6800 IN. ' 24RP = 400,0000 IN.

SPORK = 55,000 RUDGE = .000

SCALE = .0100 SCALE

RUN NO. 41/0 RN/L = 1.71 GRACIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	ON	CA	C.H	Q.	Ф	OP1	CP2	OP3	<b>CP4</b>	CP5
7.320	12.154	.19097	.06364	00545	.13414	.09419	D1138	G1280	01525	-,01060	01054
7.320	15,300	.24016	.06228	00106	.21520	.12347	01295	01403	01643	01029	01251
7.320	18.550	.34216	.06054	.00206	.30512	.16625	01391	01435	01643	-,00996	01214
7,320	23.170	.50564	.05977	.00804	.44134	.25369	01348	01384	01511	00971	01251
7.320	27.160	.65233	.05954	.01188	.55323	.35075	01232	01324	01432	01004	01263
7.320	30.856	.79091	.05672	.D1280	.64988	.45434	01479	01460	01378	01257	01262
7.320	34.955	.96679	.05666	.01052	.75993	.60034	01230	01204	01379	00845	01250
7.320	39.067	1.14440	.05510	.00472	.85380	.76401	01104	01140	01248	00870	01110
7,320	43.007	1.29912	.05116	00379	.91511	.92352	00986	01167	01128	00965	00930
7,320	47.136	1.40294	.04775	01287	.96018	1,10478	00911	-,01065	01066	00656	-,00676
7.320	51 .256	1.60567	.04337	02295	.97106	1.2/949	00864	00927	01062	-,00498	00502
	GRADIENT	.03619	00046	<b>000</b> 38	.02296	.03084	.00011	.00011	.00016	.00011	.00014



and the state of

and the second of the second of the second

and the second second

7.320

SRADIENT

#### TABULATED DATA LISTING FOR CA23 (ARC 3.5-166)

₩E83.5-166 QA23 619 C7 E23 F5 M4 N6 R5 Y7 M107

A THE BOOK A SHOW AND A SHOW AND A SHOW AS A S

(RB4024) ( 17 SEP 73 )

.00353

.00038

.00226

.00033

#### REFERENCE DATA

.04254

-.00047

.03769

.01261

.00043

## PARAMETRIC DATA

SNC7 = 1	2000.0000 86	.FT. 190P	= 1076.40	100 IM.				BETA 2	.000	ELEVON :	-20,000
	474.8000 IN	i, THRP	= .00	000 IN.				AILRON =	-10,000	BOFLAP =	-14.250
BRET :	936.4000 IN	. ZHRP	<b>= 400.00</b>	000 IN.				SPORK =	55.000	RUDDER *	.000
SCALE *	.0100 90	ME									
		RUN F	<b>10.</b> 42/ 0	NVL =	2.15 GRA	DIENT INTER	VAL = -5.0	0/ 5.00			
MACH	ALPHA	ON	CA	a.n	a.	0	OP1	CP.S	CP3	<b>CP4</b>	CP5
7.320	12,054	.14693	.06327	00066	.13048	.09256	01482	01663	01591	01302	01263
7.320	15.149	.23012	.06115	.00299	.27314	.11916	01635	01813	01739	01405	01406
7.320	16,352	.33060	.D6036	.01078	. 3478	.16141	01671	01022	01739	01430	01435
7,320	23,060	.49011	.05881	.01790	.42792	.24606	01635	01814	01618	01282	01407
7,320	27.093	.64075	.05803	.02390	.54401	.34348	01551	01677	01557	01369	01476
7,320	30.705	.78067	.05710	.02634	.64207	.44772	01714	01746	01427	01476	01530
7,320	34,799	.95327	.05631	.02631	.75065	.59027	01494	01600	0142	01208	01407
7,320	36.982	1.12413	.05346	.02731	.64021	.74872	01352	01595	01354	00941	01161
7,320	42.934	1,27885	.05065	.02313	.90180	.90818	01152	01476	01331	00698	00619
7.320	47.034	1,43717	.04647	.01854	.94552	1.08333	01007	01387	01255	00125	00313

.02277

.03032

.00020

.00013

.00013

## TABULATED DATA LISTING FOR CA23 (ARC 3.5-166)

PAGE 40

AMESS.5-166 CA2S B22 CT E23 F5 N4 R5 V7 WLOT

(886001) ( 13 SEP 73 )

## REFERENCE DATA

## PARAMETRIC DATA

and the second second

SALLY	*	2600.0000 50.FT.	MAR		1076,4800 IN.	BETA =	.000	ELEVON =	.000
LHEF	*	474.8000 IN.	YHE	- =	.0000 IN.	AILRON =	.090	BOFLAP =	-14.250
SAEF	*	936.6600 IN.	2148		400,0000 IN.	S/DBRK =	55.000	RUDDER =	.000
BCALE	=	.0150 SCALE							

RUN NO.	10/ 0	RN/L =	1.91 GR	ADIENT INTE	RVAL = -5.	90/ 5.00
w	NO+	ALPHA	a	CYN	CBL	L/D
5.	.200	2.009	00503	00097	.00015	~.39083
5.	.260	5.081	-,00402	00101	60009	.31861
5.	.260	8.715	00177	00133	-,00004	1.14911
5.	.260	12.815	00086	00101	00015	1.73973
5.	.260	16.823	.00036	00085	00020	1.91646
5,	.260	20.532	.00268	0006	00011	1.85267
5.	,260	24.535	.00181	00089	-,00030	1.70271
5.	.260	28.760	.00125	-,00°64	00039	1.51656
5,	.260	32.738	.00096	L7051	00025	1.34914
5,	,260	36.808	.00161	00076	00025	1.19184
5,	.260	40.824	.00114	00056	00020	1.05433
	G	RADIENT	.00000	.00000	.00000	.00000
RUN NO,	<b>22/</b> 0	RN/L =	1.74 GR	ADIENT INTER	RVAL = -5.0	00/ 5,00
	22/0 NOH	RN/L =	1.74 GR	ODIENT INTER	RVAL = -5.0 CBL	00/ 5,00 L/0
N						•
NJ T.	NCH	ALPHA	α	CYN	CBL	L/0
N/ 7.	NOH .320	ALPHA 1.513	CY 01084	CYN 00071	CBL .DCD12	L/D 54934
HJ 7. · 7. 7.	NCH .320 .320	ALPHA 1.513 1.917	CY 01084 00937	CYN -,00071 -,00095	CBL .00012 .00043	L/D 54934 48316
Hy 7. • 7. 7.	NOH .320 .320 .320	ALPHA 1.513 1.917 4.936	CY 01084 00937 00919	CYN 00071 00095 00109	CBL .00012 .00043 .00032	L/D 54934 48316 .15635
Nu 7. · 7. 7. 7.	320 320 320 320	ALPHA 1.513 1.917 4.936 8.729	CY 01084 00937 00919 00824	CYN 00071 00095 00109 00106	CBL .DCD12 .DCD43 .OCD32 .OCD11	L/D 54934 48316 .15635 .98120
NU 7. 7. 7. 7. 7. 7. 7.	101 .320 .320 .320 .320 .320	ALPHA 1.513 1.917 4.936 8.729 12.658	CY 01084 00937 00919 00824 00360	CYN 00071 00095 00109 00108 00129	C9L .00012 .00043 .00032 .00011	L/D 54934 48316 .15635 .96123 1.63872
MU T. • 7. 7. 7. 7.	ACH .320 .320 .320 .320 .320 .320	ALPHA 1.513 1.917 4.936 6.729 12.658 16.810	CY 01084 00937 00919 00824 00360 00388	CYN -,00071 -,00095 -,00109 -,00106 -,00129 -,00106	CBL .00012 .00043 .00032 .00011 .00007 .00004	L/0 54934 48316 .15635 .98120 1.63872 1.86726
My 7. 7. 7. 7. 7. 7. 7. 7. 7. 7.	ACH .320 .320 .320 .320 .320 .320 .320	ALPHA 1.513 1.917 4.936 6.729 12.658 16.810 20.544	CY 01084 00937 00919 00824 00360 00388 00387	CYN 00071 00095 00109 00108 00129 00106 00142	CBL .00012 .00043 .00032 .00011 .00007 .00004	L/D 54934 48316 .15635 .98120 1.63872 1.86726 1.81966
MU 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7.	ACH .320 .320 .320 .320 .320 .320 .320 .320	ALPHA 1.513 1.917 4.936 6.729 12.658 16.810 20.544 24.543	CY 01084 00937 00919 00824 00360 00386 00387 00316	CYN 00071 00095 00109 00108 00129 00106 00142 00129	C9L .00012 .00043 .00032 .00011 .00007 .00004 .00007	L/D 54934 48316 .15635 .98123 1.63872 1.86726 1.61966 1.68235
PU T. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7.	ACH .520 .520 .520 .520 .520 .520 .520 .520	ALPHA 1.513 1.917 4.936 6.729 12.658 16.810 20.544 24.343 28.863	CY0108400937009190082400360003680036700318005670041400582	CYN 00071 00095 00109 00106 00129 00106 00142 00129 00143	CBL .00012 .00043 .00032 .00011 .00007 .00004 .00007 00008 .00014 00015 00012	L/D 54934 48316 .15635 .98120 1.63872 1.86726 1.61966 1.68235 1.50962
PU T. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7.	ACH .320 .320 .320 .320 .320 .320 .320 .320	ALPHA 1.513 1.917 4.936 6.729 12.658 16.810 20.544 24.343 28.863 32.797	CY01084009370091900824003600036800367003180056700414	CYN 00071 00095 00109 00:08 00129 00106 00142 00129 00143 00107	C9L .00012 .00043 .00032 .00011 .00007 .00004 .00007 00008 .00014 00015	L/0 54934 48316 .15635 .98123 1.63872 1.86726 1.81966 1.68235 1.50962 1.34243

.00039

~.00009

200001

.20832

GRADIENT

the same street details to the same to the control of the control of the control of the control of the control of



and the second of the second o

## TABLEATED DATA LISTING FOR CA23 (ARC 3.5-160)

a make the term of the state of

AMESS.5-168 QA23 822 CT E23 F5 M4 R5 V7 ME07

(863001) ( 13 SEP 73 )

REPERENCE DATA

## PARAMETRIC DATA

SHET	=	2690.0000 Se.FT.	<b>2000</b>	=	1076,4800 IN.	BETA =	.000	ELEVON =	,000
UNEF	3	474.8000 IN.	YMRP	22	.0000 IN.	AILRON =	.000	BOFLAP =	-14.250
BREF	=	936.5800 IN, '	ZHRP	=	400.0000 IN.	SPOBRK =	55.006	RUDDER =	.000
SCALE	=	.D150 SCALE							

RUN NO. $2/0$ RN/L = 1.86 GRADIENT INTERVAL = -5.00/ 5.0	3.UU
--	------

МОН	ALPHA	CY	CTN	CBL	L/0
10.290	1,961	-,00960	00045	.00042	-,47564
10.290	5,009	00706	00056	.00022	.12720
10.290	8.695	00622	00070	00009	.94267
10.290	12.604	00601	00092	.00008	1,61552
10,290	15.795	00549	00043	00020	1.92295
10.290	20,533	00174	00106	00020	1,60790
10.290	24.397	00573	00023	00059	1.73982
10.290	28.564	00656	00007	00101	1.55325
10.290	32,549	00589	.00167	00057	1,40517
10,290	36,661	00563	00106	00041	1.18851
10.290	40.701	00578	00136	00055	1,04974
	GRADIENT	.cocco.	.00000	.00000	בורוכוניגו.

I have been some and the second state of the second second

# AMESS.5-166 CA23 822 C7 E23 F5 M4 R5 Y7 W107

(886002) ( 13 SEP 73 )

#### REFERENCE DATA

## PARAMETRIC DATA

SILT		2090,0000	59,FT.	XHRP	= :	1076.48	06 IN.				BETA =	5.000	ELEVON =	.000
LIKET	3	474,8000	IN,	Y MRP	=	.00	00 IN.				AILRON =	.000	BOFLAP =	-14,250
BREF	*	936,6600	IN.	ZHRP	=	400.00	00 IN.				SPOURK =	55.000	RUDDER =	.000
SCALE	=	.0150	SCALE											
				RUN N	ĸ.	9/ D	RN/L =	1,45	GRADIENT INTE	RVAL = -9.	00/ 5.00			
					MA	Он	ALPHA	CY	CIN	CBL	L/0			
					5.	260	12.262	06189	00016	00197	1.54942			
					5.	<b>26</b> 0	13.439	~.06099	-,00083	00219	1.66501			
					5.	260	17.126	05763	-,00286	00256	1,84489			
					5.3	560	20,944	05433	00492	00286	1.81094			
					5.	260	25.021	05331	-,00648	00358	1.67321			
					5.2	260	28.878	05304	-,00756	00404	1.50779			
					5.8	560	32.620	05460	00740	00492	1.34554			
					5.8	260	36,771	05277	~,00009	00511	1.19728			

# RUN NO. 26/ 0 RN/L = 1.90 GRADIENT INTERVAL = -5.00/ 5.00

-.00909

-.00030

-.00526

-.00012

1.05371

-.02184

-.05170

.00032

41.056

GRADIENT

MACH	ALPHA	G	CYN	CBL.	L/O
7.320	12,023	05290	00352	00110	1.39210
7,320	13,228	05180	~.00419	00130	1.53978
7.320	17,139	D484D	00582	00171	1.78628
7,320	20,872	04595	00720	00185	1.78155
7,320	25,052	04520	00821	00259	1.64764
7,320	28,929	04850	00750	00352	1,49098
7,320	32,738	04808	00613	00411	1,33984
7,320	36,904	04915	00892	00440	1.18682
7,320	40,976	05047	00948	00489	1.04832
	CHANIFNT	00006	- mmg	00014	- 01703

#### 8/ 0 RN/L = 1.79 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALFHA	CY	CYN	CBL	L/0
10,290	11.984	04525	00454	00110	1.34185
10,290	13.232	04407	00517	00127	1.50603
10,290	17.070	0421 `	00628	00169	1.75103
10,290	20,691	04158	09715	00201	1,74690
10,290	24.962	04192	~.00823	00282	1.63163
10,290	28.780	04373	00765	00403	1.48226
10,290	32.592	04463	- ,00768	09449	1,33410
10.290	36,745	04585	00839	00501	1.18207
10,290	40.812	04494	00884	00551	1.04706
	GRADIENT	00006	00013	00016	01554



. . . . . .



a kacamari fantandania dala

DATE 11 MEP 74

#### TABULATED DATA LISTING FOR CA23 (ARC 3.5-166)

7.320

7.320

7.320

7.320

7.320

24.578

28,707

32.668

36.763

40 754

GRADIENT

-.00222

-.00437

-.00435

-.00579

-.00587

.00055

PAGE 43

AFE33,5-166 CA23 822 C7 E23 F5 H4 R5 V7 ML07

(886003) ( 13 SEP 73 )

#### PARAMETRIC DATA REFERENCE DATA SREF = 2800,0000 80,FT. 10RP = 1078,4600 IN. BETA = .000 ELEVON = -40.000 AILRON = .000 80FLAP = -14.250 **ንዞ**ዊም = .0000 IN. UREF = 474,6000 IN. 936,9800 IN. ' 2MRP = 400,0000 IN. SPOBRK = RUDDER = 55,000 .0150 SCALE

RUN NO. 1	3/0 RN/L=	1.90 GA	ADIZMT INTE	RVAL ≈ -5.	00/ 5,00
MACH	ALPHA	cr	CYN	CBL	L/O
5,26	0 1,916	01366	000s. <sup>-</sup>	.00024	79167
5.26	U 4.927	01192	00104	.00009	18910
5.26	8.628	00903	00135	00011	.65590
5.26	0 12.740	00797	00098	00029	1.40768
5.26	G 16,768	00760	00100	00043	1.72535
5.26	0 20.529	00547	00127	00032	1.73848
5.26	24.454	00682	00156	00057	1.63588
5.26	0 28.692	00690	00126	00072	1.47692
5,26	32.627	00733	00118	00070	1.32390
5,26	36.765	00814	00114	00072	1.17341
5,26	9 40.775	00869	00129	00080	1.04294
	GRADIENT	.00058	-,00006	00005	.20012
BUN NO. 1	7/0 RN/L=	1.78 GR	ADIENT INTE	RVAL = -5.	00/ 5.00
MACH	ALPHA	G	CYN	CBL	Lo
7.32	اند <del>ور 1 .7</del>	01070	00144	.00007	83360
7.32	4.928	00897	00116	.00007	29218
7.32	8.615	00727	00118	00026	.57809
7.32	12.793	00469	00118	00026	1.37974
7.32	16.805	00333	00100	00027	1.70713
7.32	20.531	00287	00141	00024	1.71501

-.00111

-.00128

-.00108

-.00126

-.00154

.00009

-.00040

-.00057

-.00062

-.00058

-.00045

-.00000

1.61783

1.46930

1.31364

1.16982

1.03727

.17295

## TABULATED DATA LISTING FOR QA23 (ARC 3.5-166)

PAGE 44

AMESS.5-168 CA23 B22 LT E23 F5 M4 R5 V7 MQQT

(886003) ( 13 SEP 73 )

REFERENCE DATA

PARAMETRIC DATA

BRET		2000.0000 34.FT.	<b>10-67</b>	3	1076,480G IN.	BETA =	.000	ELEVON =	-40.000
URD		474.6000 IN.	YMRF	Ŧ	.0000 IN.	AILRON =	.000	BOFLAP =	-14.250
BREF	*	936.6600 IN.	ZHRF	=	400,0000 IN.	SPOBRK =	55,000	RUDDER #	.000
SCALE		.0150 SCALE							

RUN NO. 6/ 0 RN/L = 1.69 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CΥ	CYN	CBL	L/D
10.290	1.914	01243	.00001	.90021	63603
10,290	4,963	01357	~ .00035	.00023	09750
10.290	8.516	01244	*.00039	.00009	.71565
10.290	12.747	01119	~.00030	00004	1.46079
10.290	16.781	01123	00065	.30020	1.74997
10.290	20.483	<b>0</b> 00047	00100	00026	1.71831
10.290	24.487	EJ <b>76</b> 9	~.00036	00009	1.62426
10.290	26,692	00811	00059	00087	1.46569
10.290	32,587	<b>00</b> 890	00072	00086	1.30980
10.290	36,664	00694	00074	70081	1.16316
10.290	40.751	00729	00105	'81	1.03033
	GRADIENT	00037	00012	"L 1	.17662



TABLEATED DATA LISTING FOR CA23 (ARC 3.5-166)

To be the second of the second

AMESS.5-166 CA25 822 C7 E23 F5 N4 R5 Y7 WEET

(B8403A) ( 13 SEP 73 )

PARAMETRIC DATA

PAGE 45

REFERENCE DATA		

SREP*		2000,0000 80.FT.	104RP	=	1076.4800 IN.	BETA = .000 ELEVON =	-40,000
URET	*	474,8000 IN.	YHRP	=	.0000 IN.	= PAJRON = .000 BOFLAP =	-14.250
BREF	*	936.6600 IN. '	ZHRP	=	400.0000 IN.	SPORK = 55,000 RUDDER =	.000
SCALE	I	.0150 SCALE					

RUN NO. 1	13/0 RH/L=	1.90	RADIENT IN	ERVAL = -5	.00/ 5.00
MAG	ALPHA	CY	CYN	CBL	L/D
.20	1.916	01366	00065	.00024	79167
5,26	4.927	01192	00104	.00009	18910
5.26	8.628	00903	00135	00011	.65590
5.26	12.740	00797	00098	00029	1.40768
5.26	16.768	00760	00100	00043	1.72535
5.26	20.529	00547	00127	00032	1.73848
5.26	24.454	00682	00156	00057	1.63588
5.26	28.692	00690	00126	00072	1,47692
5,26	32.627	00733	00118	00070	1.32390
5.26	36.765	00814	00114	00072	1.17341
5,26	40.775	00869	00129	000080	1.04294
	GRADIENT	.00058	~.00006	00005	.20012

RUN NO.	17/ 0	RN/L =	1.78	GRADIENT	INTERVAL =	-5.00/	5.00
ACT 100.	1.,	1000	1.10	ACCE TO 1	THIS -	-9.00/	J.W

MACH	ALPHA	CY	CYN	CBL	L/C
7,320	1.798	01070	00144	.00007	83360
7,320	4.928	00897	00116	.00007	29218
7.320	8.615	00727	00118	00026	.57809
7,320	12.793	00469	00118	-,00026	1.37974
7.320	16.805	00333	00108	00027	1.70713
7.320	20.531	00287	00141	00024	1.71501
7.320	24.578	00222	00111	00040	1.61783
7,320	28,707	00437	00128	00057	1.46930
7.320	32.668	00435	00108	00062	1.31384
7.320	38,763	00579	00126	00058	1.16982
7.320	40.754	00587	00154	00045	1.03727
	GRADIENT	.00055	.00009	00000	.17295

# TABULATED DATA LISTING FOR CA23 (ARC 3.5-168)

AFES3.5-166 CA23 822 C7 E23 F5 M4 R5 V7 M107

(88603A) (13 SEP 73 )

REPERENCE DATA

PARAMETRIC DATA

SKET	=	2090,0000 99.FT.	MERP	=	1076,4800 IN.	BETA =	.000	ELEVON =	-40,000
LREP	2	474.8000 IN.	YHRP	z	.9000 IN.	AILRON =	.000	BOFLAP =	-14.250
BRET	=	936,6600 IN, '	ZHRP	=	400,9000 IN.	SPDBRK =	ناۋى, 55	RUDDER =	.000
SCALE	=	.0150 S.ALE							

7/ 0 RN/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CY	CYN	CBL.	L/O
10.290	1.642	00604	00057	.00014	87269
10.290	4.880	~.00572	00099	.00003	37140
10.290	8,675	00695	00105	.00006	.49148
10.290	12.799	00655	00127	.00007	1.33736
10.290	16.911	-,00642	00113	00002	1.69557
10.290	20.572	00709	00121	00007	1,71624
10.290	24.706	00781	~.00114	000008	1.61030
10.290	28.849	00693	00104	00041	1.45517
10.290	32.826	00944	00111	00065	1.30162
10.290	36.885	-,01056	00111	00061	1,15649
10.290	40.740	01222	00111	00087	1.03207
	GRADIENT	,00010	00013	00004	.15483





## TABULATED DATA LISTING FOR CA23 (ARC 3.5-166)

PAGE 47

The state of the s

MESS.5-160 QA23 B22 C7 E23 F5 M4 R5 Y7 WLD7

(884004) ( 13 SEP 73 )

#### REFERENCE DATA

## PARAMETRIC DATA

SHEF	=	2000,0000 SQ.FT.	MRP	=	1979,480G IN.	BETA =	.000	ELEVON =	-20,000
UREF	*	474.8000 IN.	YMRP	=	.0000 IN.	AILRON =	.000	BOFLAP =	-14.250
BREF	I	936,6600 IN. '	214RP	=	400,0000 IN.	SPOBRK =	55,000	RUDCZR =	.000
SCALE	3	.0150 SCALE							

RUN NO.	24/ 0	RN/L =	1.86 G	RADIENT INTE	RVAL = -5.	90/ 5,00
H	ACH	ALPHA	CY	CYH	CBL.	L/D
7	.320	1.851	01129	00101	.00049	67439
7	. 320	4.943	00903	00099	.00041	01213
7	.320	8.659	00742	00095	.00013	.86033
7	.320	12.818	00408	00105	.00005	1.54995
7	.320	16.791	00044	00075	00023	1.80297
7	.320	20.489	00245	00103	00019	1.77654
_						

-.00121 -.00028 1.65429 7,320 24.572 -.00365 -.00125 7.320 -.00563 -,00045 1.48866 28,716 7.320 -.00047 1.33573 32,649 -.00508 -.00115 7,320 -.0057. -.00095 -.00052 36.791 1.18328 7.320 -.00044 40.816 -.00809 -.00144 1.04939 GRADIENT .00073 .00001 -.00903 .21419

7, - ×/ =

الراجية مجاري

. . .

٠,

在2000年1

BATE 11 SEP 74 TABULATED DATA LISTING FOR CA23 (ARC 3.5-166)

PAGE 48

AMESS.5-166 CA23 B22 C7 E23 F5 M4 R5 V7 W:07

(BB6005) ( 17 SEP 73 )

REFERENCE DATA

PARAMETRIC DATA

SACT		2690 .000 SQ.FT.	10-SQP	=	1076.4800 IN.	HETA =	.000	ELEVON =	15,000
UKO	*	474.8000 IN.	YMRP	=	,0000 IN,	AILRON =	.000	BOFLAP =	-14.250
BREF		936.6800 IN. '	ZHRP	=	400.0000 IN.	SPOBRX =	55.000	RUDDER =	.000
SCALE	=	DIST SCALE							

RUA NO.	14/ 0	RN/L = 1	.86 GRAD	IENT INTERVA	L = -5.00	/ 5.00
MAG	Э А	LLPHA	CT	CYN	CBL	L/O
5.2	260	1.977 -	.01097	00096	.00025	18281
5.2	260	5.019 -	.00986	00101	.00008	.53502
5.2	260	8.674 -	.00834	00123	.00002	1,31350
5.2	260 1	2.777 -	.00582	00093 -	.00017	1,77036
5.2	260 1	6.803 -	.00623	00108 -	.00014	1.86687
5.2	260 2	හ. 399 -	.00595	00140 -	.00011	1.78033
5.2	260 2	2D.626 -	.00395	00120 -	.00014	1,77344
5.2	e <b>e</b> r 2	24. 17 -	.00572	00156 -	.00017	1.62021
5.2	2 <b>6</b> 0 2	<b>28.7</b> 10 -	.00584	00143 ~	.00027	1.44170
5.2	260 3	32.703 -	.00654	00124 -	.00024	.28036
5.2	260 3	36,769	.00692	00127 -	.00025	1.13331
5.2	260 4	W.833 -	.00766	00150 -	.00000	1.00183
	GRA	DIENT	.00000	.00000	.00000	.00000
RUN NO.				.00000 LENT INTERVA		
RUN NO.	18/ 0	RNVL = 1		IENT INTERVA		
	187 D	RN/L = 1	.73 GRAD	IENT INTERVA	L = -5,00,	/ 5.00
MAG	187 0 CH A	RRVL = 1 NLPHA 1.985 -	,75 GRAD CY -00741	IENT INTERVA	L = -5,00,	/ 5.00 L/D
MAC 7.3	18/0 CH A 220 320	RN/L = 1 NLPHA 1.985 - 5.092 -	.73 GRAD CY .00741 .00658	IENT INTERVA CYN 00059	L = -5.00. CBL .00012 .00013	/ 5.00 L/0 27042
MA6 7,3 7,3	18/ 0 CH A 920 520 520	RN/L = 1 NLPHA 1.985 - 5.092 - 8.740 -	.73 GRAD CY .00741 .00658 .00527	CYN -,00059 -,00067	CBL .00012 .00013 .00011	/ 5.00 L/O 27042 .41197
MAC 7.3 7.3 7.3	18/ 0 34 A 320 320 320 320	RN/L = 1 NLPHA 1.985 - 5.092 - 8.740 - 12.835 -	.73 GRAD CY .00741 .00658 .00527 .00316	CYN 00059 00067 00091	CBL .00012 .00013 .00011 .00014	/ 5.00 L/D 27042 .41197
MAC 7.3 7.3 7.3 7.3	18/ 0 24 A 320 320 320 320 1 320 1	RN/L = 1 NLPHA 1.985 - 5.092 - 8.740 - 12.835 - 16.964 -	.73 GRAD CY .00741 .00658 .00527 .00316 .00427	CYN -,00059 -,00067 -,00091 -,00094	CBL .00012 .00013 .00011 .00014 .00015	/ 5.00 L/O 27042 .41197 1.17358 1.71172
Mac 7.3 7.3 7.3 7.3	18/ 0 24 A 220 320 320 320 320 1 320 1	RN/L = 1 1.985 - 5.092 - 8.740 - 12.833 - 16.964 - 20.540 -	.73 GRAD CY .00741 .00658 .00527 .00316 .00427 .00065	CYN 00059 00067 00091 00094 00124 00087	CSL .00012 .00013 .00011 .00014 .00015 .00011	/ 5.00 L/D 27042 .41197 1.17358 1.71172 1.83156
MAC 7.3 7.3 7.3 7.3 7.3	18/ 0 04 A 320 320 320 320 1 320 1 320 2	RVL = 1  NLPHA  1.985 - 5.092 - 8.740 - 2.833 - 6.964 - 20.540 - 24.580	.73 GRAD CY .00741 .00658 .00527 .00316 .00427 .00065 .00013	CYN 00059 00067 00091 00094 00124 00124 00122	L = -5.00.  CBL .00012 .00013 .00011 .00014 .00015 .00011 .00018	/ 5.00 L/D 27042 .41197 1.17358 1.71172 1.83156 1.75662
MAC 7.3 7.3 7.3 7.3 7.3 7.3 7.3 7.3	18/ 0 920 920 920 920 920 920 1 920 2 920 2 920 2 920 2 920 3	RV/L = 1  NLPMA 1.985 - 5.092 - 6.740 12.835 16.964 16.964 16.964 16.967 16.969 16.969 16.969	.73 GRAD CY .00741 .00658 .00527 .00316 .00427 .00065 .00213 .00306	CYN0005900067000910009400124000870016700160	CSL .00012 .00013 .00014 .00015 .00011 .00018 .00012	/ 5.00 L/D 27042 .41197 1.17358 1.71172 1.83156 1.75662 1.60649
MAC 7.3 7.3 7.3 7.3 7.3 7.3 7.3 7.3 7.3	18/ 0  34	RN/L = 1  NLPMA 1.985 - 5.092 - 8.740 - 12.833 - 18.964 - 19.540 - 19.540 - 19.540 - 19.559 - 19.5599 - 16.758 - 19.5599 - 16.758 - 19.5599 - 16.758 - 19.5599 - 16.758 - 19.5599 - 16.758 - 19.5599 - 16.758 - 19.5599 - 16.758 - 19.5599 -	.73 GRAD CY .00741 .00658 .00527 .00016 .00316 .00065 .00213 .00306 .90339 .00345	CYN000590006700094000870012400122001060010600106	CSL .00012 .00013 .00014 .00015 .00011 .00018 .00012 .00012 .00023 .00007	/ 5.00 L/D 27042 .41197 1.17358 1.71172 1.83156 1.75662 1.60649 1.43421
MAC 7.3 7.3 7.3 7.3 7.3 7.3 7.3 7.3	18/ 0  34	RN/L = 1  NLPMA 1.985 - 5.092 - 8.740 - 12.833 - 18.964 - 19.540 - 19.540 - 19.540 - 19.559 - 19.5599 - 16.758 - 19.5599 - 16.758 - 19.5599 - 16.758 - 19.5599 - 16.758 - 19.5599 - 16.758 - 19.5599 - 16.758 - 19.5599 - 16.758 - 19.5599 -	.73 GRAD CY .00741 .00658 .00527 .00016 .00316 .00065 .00213 .00306 .90339 .00345	CYN00059000670009400124001220010600106	CSL .00012 .00013 .00014 .00015 .00011 .00018 .00012 .00012	/ 5.00 L/0 27042 .41197 1.17358 1.71172 1.83156 1.75662 1.60649 1.43421 1.27946

.00000

.00000

.00000

.00000

GRADIENT





## TABULATED DATA LISTING FOR CA23 (ARC 3.5-166)

WESS.5-168 CA23 BZZ C7 EZS F5 N4 R5 V7 MLO7

(886005) ( 13 SEP 73 )

REFERENCE DATA

PARAMETRIC DATA

		2000,0000 90,FT.	2040	P 3	1076,442 D IN.	BETA =	.000	ELEVON =	15.000
LINET	*	474,8000 IN.	YHR	<b>P</b> =	.NI CLOOL	AILPON =	.000	BOFLAP =	-14.250
SREF	=	936,6600 IN.	ZMR	P =	400,0000 IN.	SPOBRK =	55.000	RUDDER =	,000
SCALE	=	.0150 SCALE							

RUN NO.	3/ 0	RM/L =	1.84	GRADIENT	INTERVAL =	-5.00/	5.00	

MACH	ALPHA	CT	CAN	CBL.	L/0
10.290	1.980	01145	00025	.00023	24357
10.290	5.067	01133	00078	.00022	.42670
10.290	8.751	00881	00072	.00013	1.20070
10.290	12.833	00755	00110	.00016	1.72960
10.290	16.785	00761	00098	00032	1.84128
10.290	20.448	00523	00095	00011	1.76553
10.290	20,662	01129	00119	.00047	1.76799
10.290	24.513	00578	00093	00059	1.60601
10.290	28.604	00592	00982	00056	1.43203
10.290	32,571	00755	00108	00059	1.27272
10,290	36.662	00579	00124	.00019	1.12684
10.290	40.860	00788	00185	.00056	.99143
	GRADIENT	.mann	. מרצועיו.	CERTAIN	(VYYY)

#### TABULATED DATA LISTING FOR CA23 (ARC 3.5-168)

PAGE 5

AMESS.5-168 CA23 B22 C7 E23 F5 H4 R5 Y7 W107

(886006) ( 13 SEP 73 )

REFERENCE DATA

PARAMETRIC DATA

 28EF = 2690,0000 Sq.FT, WRP = 1076.4800 IN.
 BETA = .000 ELEVON = -40,000

 LREF = 474.8000 IN.
 YMRP = .0000 IN.
 AILRON = .000 BDFLAP = .000

 BREF = 936.8800 IN.
 ZMRP = 400.0000 IN.
 SPDBRK = 55,000 RUDGE = .000

SCALE = .0150 SCALE

RUN NO. 25/0 RN/L = 1.95 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CT	CYN	CBL	L/D
7.320	1,775	01027	00136	.00006	81038
7,320	4.882	00878	00133	.0006	26123
7.320	8.610	00711	00131	.000017	.61086
7,320	12,779	00440	~.00118	.00006	1.39104
7.320	16,794	00353	00107	00012	1.72661
7.320	20.472	- 00297	00119	00002	1.72847
7,320	24.554	00185	··.00122	00024	1.62899
7,320	28.766	00401	00135	00046	1.46922
7,320	32.678	00488	00120	00048	1.31774
7.320	36,819	-,00576	00140	00045	1.16532
7.320	40.872	00505	00115	-,00043	1.03369
	GRADIENT	.00048	.00001	.00000	.17698



and the second of the second o

## TABULATED DATA LISTING FOR CA23 (ARC 3.5-166)

PAGE 51

MA R5 47 MLG7 (86	86007) (13 SEP 75 )
PARAMET	TRIC DATA
BETA = .00 AILRON ± .00 SPDBRK = 55.00	00 BOFLAP = .000
INTERVAL = -5.00/ 5.00	
09600026 1.19284 0400013 1.05128	
100	009500026 1.19284 010400013 1.05128

MACH ALPHA CY CYN CBL. L/D 7.320 1.791 -.01251 -.00096 .00046 -.50356 7.320 4.869 -.01164 -.00119 .00042 .13710 7.320 8.623 -.00917 -.00078 .00040 1.04503 7.320 12.749 -.00629 -.00117 .000008 1.66983 7.320 16,787 -.00544 -.00109 .00010 1.89090 7.320 20.470 -.00512 -.00131 .00012 1.63954 7.320 -.00018 24.524 -.00517 1.69669 -.00128 7.320 28,748 -.00603 -.00112 -.00018 1.51446 7.320 36,790 -.00939 -.00121 -.00013 1.19442 -.00150 7,320 40.902 -.00616 -.00005 1.05396 GRADIENT .00022 -.000u7 -.00001 .20748

1

## TABLEATED DATA LISTING FOR GAZS (ARC 3.5-166)

PAGE 32

# AHES3.5-166 CA23 B22 C7 E23 F5 N4 R5 V7 MID7

(884007) ( 13 SEP 73 )

#### REFERENCE DATA

## PARAMETRIC DATA

MC7 =	2000,0000 84 FT,	XMRP	= 1076.4800 IN.	BETA =	.000 ELEVON =	,000
UNDF =	474,6000 iH.	YPRP	.000\' IN.	AILRON =	.DOU BOFLAP =	.000
<b>BRE7</b> =	936,6800 IN.	· ZHRP	= 400,000c .d.	SPDBRK =	95,000 RUDDER =	.000
SCALE =	,0150 SCALE					

RUN NO. 1/0 RN/L = 1.87 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	a	CYN	CBL	L/0
10.290	1.910	00541	~.00035	.00006	42905
10.290	5.018	-,06363	00052	.00002	.14730
10.290	8.693	00369	00062	00004	.98094
10.290	12.716	00292	00078	00021	1.63078
10.290	16,773	00089	00075	00065	1.84756
10.290	20.458	00033	00087	00011	1.80744
10.290	24.502	0016	~.00028	00063	1.70344
10.290	28,641	~.00066	.00008	00089	1.53875
10.290	32,572	00065	00053	00062	1.35509
10.290	36,689	00206	00119	00086	1.18551
10,290	40,755	00304	00121	00107	1.04748
	GRADIENT	.00000	.00000	.00000	.00000



the same of the same of the same of the same of the

## TABULATED DATA LISTING FOR CA23 (ARC 3.5-164)

#### PAGE 53

## MESS.5-180 CA23 822 C7 E23 F5 M R5 Y7 MOT

## (884000) ( 13 SEP 73 )

# CARAMETRIC DATA

REFERENCE DATA				PARAMETRIC DATA						
REF = REF = REF =	2000.0000 SG.FT. 474.0000 IN. 936.0000 IN. .0150 SG.LE	YHRP =	8.4800 IN. .0000 IN. 0.0000 IN.				BETA = AILRON = 9PORK =	.000 .00u 55.000	ELEVON = BOFLAF = RUDDER =	.000 13,750 .000
		RUN NO. 12	/ 0 MVL =	1.71 GR	STAL TAGLOM	RVAL = -5.	00/ 5.00			
		MACH	ALPHA	CΥ	CYN	CBL.	L/0			
		5,260	1.915	01007	00074	.00009	34791			
		5.260	5,000	01021	00062	-,00009	.37528			
		5.260	8.595	00721	00106	00011	1.22299			
		5.260	12,754	00695	00092	00029	1.77020			
		5,260	16,691	00579	00083	00049	1.91775			
		5.260	20.446	00544	00078	00030	1.84290			
		5.260	24.493	00591	00134	00063	1.67715			
		5.260	28.634	00690	00086	00072	1.49563			
(	유 건	5.260	32,619	00704	~.00049	00074	1.32442			
	전隔	5.860	36,752	00797	00954	-,00062	1,16876			
	€ ¤ž	5.260	40.837	00816	00074	00049	1.03148			
	neprod <b>u</b> original		GRADIENT	00005	00003	00006	.23440			
	( )	RUN NO. 20.	/ 0 RN/L =	1.51 GR	NOTENT INTE	RVAL = -3.	00/ 5.00			
	PAGE	MACH	ALPHA	ଫ	CYN	CBL.	L/0			
	<b>Ω</b>	7.320	1.747	01217	00165	.00077	64580			
		7.320	4.885	00927	00169	.00068	.32106			
-	rs Y	7.320	8.625	00837	00161	.00041	1.42922			
		7.320	12,770	00540	00184	.00040	2.08331			
	OF TH	7.320	16.764	00495	00191	.00010	2.17220			
	23	7.320	20.470	.04717	00523	.00652	.70906			
	OR H	7.320	24.657	00581	00217	.00009	1,78904			
	E - 1									

لهييا المناه فعليه في يوافع والما الرياد الله الماسان الماسان

-,00€26

-.00459

-.00725

-.00539

.00093

7.320

7.320

7.320

7.320

28.773

32.743

36.896

40.912

GRADIENT

-.00187

-.00177

-.00184

-.00213

-.00001

-.070314

-.00013

-.00010

-.000009

.00003

1.57172

1.38159

1.21013

1.06562

.30810

## TARKLATED DATA LISTING FOR CA23 (ARC 3,5-188)

AMESS.5-166 CA25 B22 C7 E23 F5 H4 R5 V7 WLOT

(886006) ( 13 SEP 73 )

REFERENCE DATA

# PARAMETRIC DATA

WEF	E	2690,0000 84.FT.		XHRP	I	1076,4800 IN.	9ETA =	.000	ELEVON =	.000
LREF	*	474,8000 IN.		YHRP	=	.0000 IN.	AILRON =	.000	BOFLAP =	13,750
BREF	2	936.6800 IN.	•	ZMR?	=	400.0000 IN.	SPDBRK =	\$3,000	RUDDER =	.000
SCALE	3	.0150 SCALE								

KUN NO.	<b>5/</b> 0	RN/L =	1.85	GRADIENT INTE	RVAL = -5.	5.00
м	OH.	ALPHA	a	CYN	CBL.	LO
10.	290	1.825	00654	00023	.00020	47199
10.	290	4,940	00850	00064	.00013	.14857
10.	290	8.629	00478	00059	00001	.97933
10.	290	12.765	00573	00117	00026	1.66877
10.	290	16,746	00470	00122	~.00059	1.85434
10.	290	20,483	00399	00138	99926	1.78998
10.	290	24.528	00 582	00128	00110	1.64495
10.	290	28.725	00647	00115	00111	1.46706
10.	290	32.589	00632	00130	00065	1.31087
10.	290	36,751	00839	00149	00105	1.15956
10.	290	40.898	00650	00155	00010	1.02177
		CRADIENT	.0000	00013	~.00002	.19920



# TABLEATED DAYA LISTING FOR CA23 (ARC 3,5-146)

PAGE 51

## AMESS.5-166 CA23 B22 C7 E23 F5 M4 R5 V7 MID7

(884009) ( 13 SEP 73 )

## REFERENCE DATA

## PARAMETRIC DATA

MATE A	2090,0000 99.FT.	Marc	=	1076.4600 IN.	BETA =	.000	ELEVON =	15.000
		YMRP			Allron =		BOFLAP =	
	936,6600 IN.			-	SPDBRK =	55.000	RUDDER =	.000
SCALE =	.0150 SCALE							

KUN NO.	15/ D	RN/L =	1.98	GRADIENT INTERVAL =	-5.00/	9.00	

MACH	ALPHA	CΥ	CIN	CBL	L/D
5,260	1.914	01231	00091	.00016	14440
5,260	4.921	01153	00096	00002	.57003
5.260	8.615	00887	00122	00002	1.35766
5.260	12,708	00812	00100	00024	1.78564
5.260	16,760	00627	00095	00024	1.86393
5.260	20,464	00607	00133	00010	1.77170
5.260	24.522	00644	00151	00020	1.59904
5.260	28.718	00615	00169	00032	1.41961
5.260	32.642	00772	00141	00029	1.25927
5.260	36,798	00771	00129	00023	1.11180
5.260	40.820	00914	00170	00010	.98348
	GRADIENT	.00026	00002	00006	.23761

## RUN NO. 19/0 RN/L = 2.09 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CY	CYN	CBL	L/O
7.320	1.796	01360	00170	.00044	14791
7.320	5,069	01066	00150	.00042	.49685
7.320	8.614	00830	00137	.00041	1,22647
7.320	12,705	00764	00186	.00043	1.72832
7.320	16,755	00272	00124	.00008	1.83657
7.320	20,485	00372	00143	.00044	1.74999
7.320	24.515	00605	00156	.00017	1.59424
7.320	28.671	DD666	00155	.00009	1.41847
7.320	32.599	00467	00128	.00009	1.26167
7.320	36.651	00570	00153	.00018	1.11751
7.320	40.846	02767	02133	.01329	.97282
	GRADIENT	.00000	.00000	.00000	.00000

## TABULATED DATA LISTING FOR CA23 (ARC 3,5-166)

PAGE 56

AMESS.5-188 CA23 B22 C7 E23 F5 M4 R5 V7 W107

(886009) ( 13 SEP 73 )

REFERENCE DATA

PARAMETRIC DATA

SACT :	=	2690,0000 SQ.FT.		1000P	*	1076,4000 IN.	BETA =	.000	ELEVON =	15.000
LIKET	3	474,8000 IN.		THRP	=	.0000 IN.	AILRON =	.000	BOFLAP =	13.750
DREF	*	936.6800 IN.	•	ZHRP	=	400,0000 IN.	SPOBRK =	55,000	RUDDER =	.000
SCALE :	3	.0150 SCALE								

RUN NO. 4/ 0 RN/L = 1,75 GRADIENT !NTERVAL = -5,00/ 5,00

MACH	ALPHA	CY	CYN	OBL.	LO
10,290	1.849	01669	00054	.00053	21462
10.290	4,945	01536	00076	.00036	.41871
10.290	8.638	01562	00110	.00023	1.21706
10.290	12,700	01223	00104	.00011	1.75667
10.290	16.758	01041	00066	00022	1.88109
10.290	20,468	~.00972	00039	<b>00</b> 050	1.79270
10.290	24,438	00654	00015	00058	1.63289
10.290	28.563	00908	00005	00092	1.45195
10.290	32,546	00847	.00145	00105	1.30330
10.290	36.692	01099	.00247	00098	1.15379
10.290	40.709	~.20760	00211	.00067	.97683
	GRADIENT	.00042	00007	00006	.20454







## TABULATED DATA LISTING FOR CA23 (ARC 3.5-166)

## AMESS.5-168 CA23 B22 C7 E23 F5 M4 R5 V7 WLOT

(86609A) ( 13 SEP 73 )

#### REFERENCE DATA

# PARAMETRIC DATA

SPET		2000,0000 SQ.FT.	<b>MARS</b>	2	1076.4800 IN.	BETA =	.000	ELEVON =	15,000
LKEF	3	474.6000 IN.	THRP	=	.0000 IN.	AILRON =	.000	BOFLAP =	13,750
BRET	8	936,6600 IN. '	ZHRP	*	460.0000 IN.	3FDBRK =	55,000	RUDDER =	.000
SCALE	3	.0150 SCALE							

RUN NO,	15/ 0	RN/L =	1.98 G	RADIENT INTO	ERVAL = -5.	00/ 5.00
N	М	ALPHA	CΥ	CYN	CBL	L/D
5.	.260	1.914	01231	00091	.00016	14440
5,	.260	4.921	01153	00096	00002	.57003
5.	.26L	8.615	- 00887	00122	00002	1.35766
5.	.260	12.708	00012	00100	00024	1.78564
5.	260	16,760	00627	00095	00024	1.86393
5.	.260	20.464	00607	00133	00010	1.77170
5.	.260	24.522	00644	00151	00020	1.59904
5.	260	28.718	00815	00169	00032	1.41961
5,	.260	32,642	66.72	00141	00029	1.25927
5.	.260	36,798	00771	00129	00023	1.11180
5,	260	40.820	00914	00170	00010	.98348
	G	RADIENT	.00026	00002	00006	.23761

MACH	ALPHA	Cr	CYN	CBL	L/O
7.320	1.763	01013	00063	.00071	23043
7.320	4.849	00663	00044	.00046	.45095
7,320	8.603	00598	00063	.00038	1.25719
7.320	12.765	00225	00094	.00036	1.76437
7,320	16.785	00170	00072	.00016	1.85866
7.320	20,456	00339	00132	.00011	1.75743
7,320	24.552	00274	00112	.00013	1.60518
7.320	28.693	00544	00107	.00019	1.42429
7.320	32.709	00469	00095	.00021	1.26353
7.320	36.787	00597	00126	.00025	1.11883
	GRADIENT	.00114	.00006	~.00008	.22113

#### TABULATED DATA LISTING FOR GAZ3 (ARC 3.5-166)

PAGE S

AMES3.5-166 CA23 822 C7 E23 F5 M4 R5 V7 W107

(88609A) / 13 SEP 73 )

REFERENCE DATA

PARAMETRIC DATA

SACT		2000,0000 SQ.FT.	XHEP	*	1076.4800 IN.	BETA =	.000	ELEVON =	15.000
LREF	=	474.8000 IN.	YMRP	z	.0000 IN.	AILRON =	.000	BOFLAP ≃	13.750
DREF	*	936,6600 IN. '	ZMRP	#	400.0000 IN.	SPOBRK =	55.000	RUDDER =	.000
SCALE	*	.0150 SCALE							

RUN NO. 4/	O RM/L =	1.75	GRADIENT INT	ERVAL = ~5.	00/ 5.00
MACH	ALPHA	CT	CYN	CBL	סיב
10.290	1.849	01669	00054	.00053	21462
10.290	4.945	01538	00076	.90036	.41871
10.290	8,638	01562	00110	.00023	1 .21706
10.290	12.700	01225	00104	.00011	1.75667
10,290	16.758	01041	00066	00022	1.88109
10.290	20,468	00972	90039	00050	1.79270
10.290	24.438	00854	00015	00058	1.63289
10.290	28.583	-,00908	00005	00092	1.45195
10.290	32.515	90847	.00145	00105	1.30330
10.290	36,6,∠	01099	.00247	00098	1.15379
10.290	40.709	00760	90211	.00067	.97683
	GRADIENT	.00042	00007	00006	.20454





The second secon

DATE 11 MEP 74

الماليات المالي المالي المالي المالية المالية والإراق والمالية المالية المالية والمالية والمالية والمالية المالية

## TABULATED DATA LISTING FOR CA23 (ARC 3.5-166)

PAGE 59

## AFES3.5-168 CA23 B19 C7 E23 F5 M4 N6 R5 V7 W107

(884010) ( 13 SEP 73 )

		MEPERENCE DAT	ra .		•	PARAMETRIC DATA	PARAMETRIC DATA				
SACT		2000.0000 80.FT.	XHRP	=	1076.4000 IN.	000. = NOV313 000. = AT36					
LREF		474,6000 IM.	YHRP	*	.0000 iN.	000. = 9AJ708 000. = MORJIA					
DREF		936,6600 IN. '	ZHRP	=	400.0000 IN.	SPORK = \$5.000 RUDDER = .000					
SCALE	=	.0100 SCALE									

RUN NO. 55/	D RN/L =	2.30 G	RADIENT INTE	RVAL ≈ -5.	00/ 5.00
MACH	ALPHA	CT	CYN	CBL	L/o
5.260	12.240	00637	00046	00041	1.66128
5.260	15,296	00602	00847	00059	1.87856
5,260	18.454	00372	00046	00078	1.92307
5,260	23.095	00073	00073	00052	1.77799
5.260	27.026	.00098	00025	00068	1.60944
5,260	30.751	.00706	.00004	00121	1.44601
5.260	34.762	.00479	.00006	00093	1.28045
5.260	39.027	.00875	.00031	00078	1.12233
5,260	42.894	.00997	00008	00081	.99291
5.260	47.060	.01255	00005	00055	.86816
5.260	51.086	.01651	00007	.00038	.75861
	GRADIENT	.00058	.00002	.00901	03016
RUN NO. 27/	O RN/L =	1.77 G	RADIENT INTE	RVAL = -5.	00/ 5.00
MACH	ALPHA	CY	CYN	CBL.	L/C
7.320	12.222	01662	00277	.00039	1.57476
7,320	15.299	01035	00179	.00025	1.81375
7.320	18,615	01213	00144	.00021	1,90940

1.77339 7.320 23,183 ~.01301 -.00254 .00039 -.00696 -.00045 .00057 7.320 27.162 1.60431 30.845 -.00094 -.00047 .00084 1.43949 7,320 34 .933 -.00461 -.00037 .00057 1.27412 7.320 7.320 39.093 -.00505 -.00063 .00066 1.12032 7.320 42,965 -.00375 .00003 .00132 .99162 7.320 47,143 -,00392 -.00200 .00123 .866/)1 7.320 51.147 .00560 .00069 .00133 .75711 GRADIENT .00006 .00003 .00041 -.02849

المراب المراب والمراب والم

REFERENCE DATA

The second secon

AMESS.5-168 CA23 819 CT E23 F5 M4 NB R5 V7 W107

(886011) ( 13 SEP 73 )

PARAMETRIC DATA

SACT		2690.0000 SQ.FT.		XRF	=	1076,4800 IN.	= NOVO ELEVON =	.000
LACT	r	474.8000 IN.		YHRF	=	.0000 IN.	# ALFON = .000 BOFLAP =	13.750
BREF	3	936.6600 IN.	•	ZHRF	=	400,0000 IN.	SFOBRK = 55,000 RUDDER =	.000
SCALE	=	.DIDD SCALE						

RUN NO. 52/ 0	RN/L =	1.89 GR	ADIENT INTE	RVAL = -5.	00/ 5,00
MACH	ALPHA	CY	CYN	CBL	L/O
5.260	12.300	01051	00117	00019	1.66192
5,260	15,346	00549	00021	00007	1.87653
5.260	18.622	00327	00043	00015	1.89214
5,2GO	23.082	00336	00101	00024	1.74997
5,260	27.001	.00127	00021	00043	1.58226
5,260	30.744	.00433	00077	00040	1.42931
5,260	34.758	.00272	00020	00082	1.25849
5,260	38.976	.00722	.90012	~,00053	1.10508
5,2 <del>6</del> 0	42.760	.01156	.00027	00038	.98048
5.260	47.005	.C1328	.00011	00026	.83473
5.260	50.89 <del>9</del>	.D1544	00024	.00064	.74988
	GRADIENT	.00063	s0000.	.00000	03034
RUN NO. 28/ 0	RNL 1. =	2.07 GR	ADIENT INTE	RVAL = -5.	00/ 5,00
<b>RUN NO. 28/ 0</b> MACH	RN 1. =	2.07 GR	ADIENT INTE	RVAL = -5.	00/ 5,00 . L/D
MACH	ALPHA	α	CYN	CBL.	L/D
MACH 7,320	ALPHA 12.186	CY 00603	CYN 00139	CBL 00001	L/D 1.60800
MACH 7.320 7.320	ALPHA 12.186 15.248	CY 00603 00169	CyN 00139 00101	CBL 00001 .00006	L_/D 1.60800 1.88283
MACH 7.320 7.320 7.320	ALPHA 12.186 15.248 18.597	CY 00603 00169 00047	CyN -,00139 -,00101 -,00050	CBL 00001 .00006 00001	L/D 1.60800 1.88283 1.91341
MACH 7.320 7.320 7.320 7.320	ALPHA 12.186 15.248 18.597 23.166	CY 00603 00169 00047 00027	CYN 00139 00101 00050 00087	CBL 00001 .00006 00001	L/D 1.60800 1.88283 1.91341 1.77452
MACH 7.320 7.320 7.320 7.320 7.320	ALPHA 12.186 15.248 18.597 23.166 27.061	CY 00603 00169 00047 00027 .00317	CYN -,00139 -,00101 -,00050 -,00087 ,00014	CBL 00001 .00006 00001 .00021 .00030	L/D 1.60800 1.88283 1.91341 1.77452 1.59698
MACH 7.320 7.320 7.320 7.320 7.320 7.320	ALPHA 12.186 15.248 18.597 23.166 27.061 30.861	CY -,00603 -,00169 -,00047 -,00027 ,00317 ,00698	CYN 00139 00101 00050 00087 .00014 .00030	CBL 00001 .00006 00001 .00021 .00030 .00050	L/D 1.60800 1.88283 1.91341 1.77452 1.59698 1.42528
MACH 7.320 7.320 7.320 7.320 7.320 7.320 7.320	ALPHA 12.186 15.248 18.597 23.166 27.061 30.861 34.944	CY -,00603 -,00169 -,00047 -,00027 ,00317 ,00698 ,00611	CYN 00139 00101 00050 00087 .00014 .00030 .00053	CBL 00001 .00006 00001 .00021 .00030 .00050	L/D 1.60800 1.88283 1.91341 1.77452 1.59698 1.42528 1.25885
MACH 7.320 7.320 7.320 7.320 7.320 7.320 7.320 7.320 7.320	ALPHA 12.186 15.248 18.597 23.166 27.061 30.861 34.944 38.985	CY 00603 00169 00047 00027 .00317 .00698 .00611 .00619	CrN 00139 00101 00050 00087 .00014 .00030 .00053	CBL 00001 .00006 00001 .00021 .00030 .00050 .00052	L/D 1.60800 1.88283 1.91341 1.77452 1.59698 1.42528 1.25885 1.10926

.00045

.00005

GRADIENT



.00004

-.02998





# TABULATED DATA LISTING FOR CA23 (ARC 3.5-166)

PASE 41

AMESS.5-168 CA23 B19 C7 E23 F5 H4 NB R5 V7 W107

(886012) ( 13 SEP 73 )

## REPERENCE DATA

# PARAMETRIC DATA

SACT		2000,0000 99.FT.	<b>MRP</b>	=	1076,4800 1	= NOVELEVON =	.000
UEF	3	474.8000 IN.	YMRP	=	.0000 1	= 9AJ708 000, = MORILA	-14.250
CRET	*	936,6800 IN. '	2HRP	=	400,0000 1	N. SPOBRK = 55.000 RUCOER =	.000
SCALE	*	.0100 SCALE					

RUN NO. 56/	0 RN/L =	2.11 GR	ADIENT INTE	RVAL = -5.	00/ 5.00
MACH	ALPHA	Cr	CYN	CBL.	פע
5,260	12,267	01059	00053	00036	1.65425
5,260	13,294	00905	00084	00049	1.88889
5,260	18.513	00650	00066	00071	1.92231
5.260	23,068	00275	00074	-,00063	1,77902
5.260	27.032	00029	00024	00061	1.60488
5,260	30,731	.00372	00035	00138	1.44284
5,2 <b>Q</b> \	34,806	.00267	00000	C0089	1.27767
5.260	38.951	.00511	.00019	00107	1.12623
5.260	42.829	.00617	00019	00080	.99707
3,260	47,061	.00972	00010	00037	.87003
5,260	51.029	.01143	00034	.00038	.76258
	GRADIENT	.00056	.00002	.00001	03012
RUN NO. 29/	D RN/L =	1.80 GR	ADJENT INTE	RVAL = -5.	00/ 5.00
HACH	ALPHA	Cr	CYN	CBL	L/O
7 700	40.006	- 00604	704 #4	CC 100	4 64 505

HACH	ALPHA	CY	CYN	CBL	L/O
7.220	12.205	00694	00139	.00019	1.61525
7.320	15.250	00553	00120	.00021	1.85276
7.320	18.551	00125	00044	.00020	1.99865
7.320	23.155	00060	00044	.00042	1,77923
7.320	27,161	.00125	.00011	.00031	1.60563
7.320	30,839	.00044	00065	.00043	1.44197
7.320	34.953	.00574	.00113	.00053	1.27431
7.320	39,154	.00678	.00067	.00084	1.12093
7.320	43.071	.00821	.00078	.00111	.99000
7.320	51.133	.01206	.00092	.00151	.76003
	GRADIENT	.00047	.00006	.00003	02864

DATE 1. SEP 74

これをおけるとのなるとのなっていますがない。 まちちょうちょう マルコースとうしゅうしょう

## TABULATED DATA LISTING FOR CA23 (ARC 3.5-166)

PAGE 62

APESS,5-166 CA23 B19 C7 E23 F5 M4 N8 R5 V7 W107

ے در مدامل میں دور ہیں ہور تعلق میں اور انسان میں امام میں انہوں اور انسان میں میں انسان میں انسان میں انسان م

(886013) ( 13 SEP 73 )

REFERENCE DATA

PARAMETRIC DATA

#REF = 2690,0000 54.FT. 19RF = 1076,4600 IN. 19RF =

RUN NO. 307 0 RN/L = 2.09 GRADIENT INTERVAL = -5.007 5.00

MACH	ALPHA	CY	CYN	CBL	L/O
7,320	12,128	01177	00218	00001	1.50147
7,320	15.255	00612	00158	.00006	1.78972
7.320	18.477	00612	00142	.00009	1.85078
7, 320	23,141	00408	00120	.00023	1.72502
7,320	27.152	00379	000080	£2000.	1.56407
7.320	30.820	.00317	00049	.00042	1.40227
7.320	34,806	.00111	00014	,00041	1.24459
7.320	39,076	.OX 280	00003	.00076	1.08910
7 320	42.980	.00756	.00043	.00090	.96091
7.320	47.110	.90721	.00042	.00113	.84014
7.320	51.159	.00592	00011	.00147	.73158
	GRADIENT	.00046	.00006	.00004	02761

The space of the party of the second of the



OATE 11 SEP 74

# TABLEATED DATA LISTING FOR CA23 (ARC 3.5-166)

PAGE 63

10.000 13.750 .000

## AMESS.5-166 CA23 P19 C7 E23 F5 M4 NB R5 V7 MIDT

(884015) ( 13 SEF 73 )

A contract to the contract of the contract of

REFERENCE DA	ATA		PARAMETRIC DATA
SAEF * 2000.0000 SQ.FT.	MRP = 1076.4800 IN.		BETA = .000 ELEVON =
UREF = 474,8000 IN.	YMRP = .0000 IN.		AILRON = .000 BOFLAP =
BREF = 936,6400 IN.	' 2MRP = 400,0000 IN.		SPOBRK = 55.000 RUDDER =
SCALE # .U100 SCALE			
	RUN NO. 51/0 RN/L =	1.96 GRADIENT INTERVAL = -5	.00/ 5.00
	MACH ALPHA	OT OTH COL	L/0
	5.260 12.250	009200007200023	1.72836
	5,260 15,347	006710004900042	1.87817
	5.2₩ 18.5/9	- 303980004500050	1.86445
	5,260 23.08.	002410006800043	1,70622
	5,260 27,034	\$ 000 01000 11000.	1,53 <del>69</del> 1
	5,260 30,755	.004260004700081	1.38768
	5.260 34.814	.00463 .0003300095	1.21834
	5.260 38.992	.00728 .0004700077	1.07000
	5.260 42.927	.01759 .0004500046	.94469
	5.260 47.091	.011160002600016	.02442
	5.260 51.131	.0167800001 .00106	.71933
	GRADIENT	.0000. 20000. 20000.	03154
	RUN NO. 32/0 RN/L =	1.74 GRADIENT INTERVAL = -5	.00/ 5.00
	MACH ALPHA	CY CYN CBL	L/0
	7.32 12.115	015140022200004	1,59714
	7.320 15.203	009940015500005	1,83006
	7.320 18.440	006810011600004	1.86959
	7,320 23,066	0025300082 .00020	1,71794
	7.320 27.009	0001800010 .00030	1.55273

.00526

.00360

.00872

.01045

.01293

.01:63

פה טטט.

.00021

.00031

.00072

.00078

.00067

.00006

.00007

.00019 1.38846

1.22893

1.07568

.94880

.82782

.72149

-.02958

.00071

.00079

.00126

.00159

.00159

.00015

7.320

7.320

7.320

7.320

7.320

7.320

30.904

34 . 780

3.946

42.870

47.018

51,064

GRADIENT

AMESS.5-166 CA23 B19 C7 E23 F5 M4 M6 R5 V7 W107

(880016) ( 13 SEP 73 )

REFERENCE DATA

PARAMETRIC DATA

1967 = 1076,4600 IN. RETA = .000 ELEVON = -40,000 = 2690.0000 SQ.Ff. .0200 IN. AILRON = .000 BOFLAP = 13.750 474.8000 IN. YMRP = 936,6800 IN. ' ZHRP = 400.0000 IN. SPOBRK = 55.000 RUDDER = .000 SCALE = .DIDD SCALE

RUN NO. 33/0 RN/L = 1.29 GRADIENT INTERVAL = -5.00/ 5.00

L/D MACH ALPHA C CAN CBL 7,320 12.105 -.01472 -.00247.00052 1.27379 7,320 15.164 -.00663 -.00182 .00064 1.64140 7.320 18.451 -.00755 -.00163 .00064 1.76476 7.320 23.063 -.00263 -.00096 .00094 1.67978 7.320 26.991 -.00093 -.00074 .00109 1.53893 7,320 30.898 .02450 -.00199 -.00102 .58947 7,320 34.872 .00664 .00005 .00121 1.22934 7,320 38.978 .00815 .00040 .00160 1,08563 7.320 42.953 .01039 .00035 .00164 .95986 47.068 .00021 .00195 .84159 7.320 .01179 7,320 51.160 .01567 .00065 .00245 .73338 GRADIENT .00070 .00000 .000034 -.02278

AMESS.5-168 CARS BIG CT E23 F5 M4 NB R5 V7 WIDT

(888017) ( 13 SEP 73 )

REPLINENCE DATA

والمراب والمناف والمراب والمناف والمحافظ والمرافع والمرافع والمراب والمرابع والمعارض والمرابي والمرابي

PARAMETRIC DATA

3060" = 1076.4600 IN. BETA = .000 ELEVON = -40.000 2000,0000 80.FT. YMRF = .0000 IN. AILRON = 474.8000 IN. .000 BOFLAP = .000 \* 2HRP = 4(10,0000 IN. SPORK = 936,6800 IN. 55.000 RUDDER = .000

SCALE = .DIGO SCALE

RUN NO. 34/0 RN/L = 1.83 GRADIENT INTERVAL = -5.00/ 5.00

HOAM ALPHA C CYN CBL L/0 7,320 12.151 -.01195 -.00155 .00071 1.17988 7.320 15.772 -.01099 -.00149 .00049 1.57726 7.320 13.538 -.00728 -.00137 .00059 1.74068 7.321 23.164 -.00438 -.00075 .00081 1.68518 7.320 27.155 -.00261 -.00015 .00086 1.54579 7.320 31.011 .00528 .00058 .00092 1.39831 7,370 34.957 .00329 .00046 .00093 1.24487 7.320 39.150 .00464 .00043 .00114 1,09661 7.320 43.035 .00618 .00047 .00127 .97421 7,320 47.128 .00866 .00069 .00151 .65493 7,320 51.248 .00840 .00039 .00188 .74601 GRADIENT .0/156 .000006 .00003 -.02063



## TABLELATED DATA LISTING FOR GAZS (ARC 3.5-160)

PAGE 65

#### AMESS.5-1 % CA23 B19 C7 E23 F5 M4 MB R5 V7 W107

(88601a) ( 13 MEP 73 ) PARAMETRIC DATA REFERENCE DATA SREF = 2000.0000 SQ.FT. MORF = 1076.4800 IN. BETA E .000 ELEVON # -40.000 LREP # 474.8000 IN. YHRP = .0000 IN. ATLRON = .000 BOFLAP = -14.250 BRET = 936,6600 IN. ' 2MRP = 400,0000 IN. SPORK = 95.000 RUDDER = SCALF = .DIOD SCALE RUN NO. 53/ 0 RN/L = 1.88 GRADIENT INTERVAL = -5.00/ 5.00 MACH . ALPHA CY CIN L 5.260 12.357 -,01348 ~.00061 .00024 1.18820

-.00951 -.00047 .00022 1.56456 5.260 15,383 5,260 18.608 -.00676 -.00051 .00006 1.72742 5,260 23.193 -.00211 -.00054 .00016 1.68023 -.00005 5.260 27,190 .00047 -.00015 1.54255 -.00008 5.263 30.835 .00523 .00018 1.40969 5.260 34.876 .00367 .00055 -.00010 1.25103 39,036 .00492 .00038 -.00031 1.10672 5,260 5.260 43.015 .00876 .00066 -.00016 .98014 .86228 5.260 47.068 .01032 .00038 .00015 5.260 51.183 .01300 .00030 .00141 ,75290 GRADIENT .00063 .00003 .00001 -.02040

RUN NO. 35/ 0 - RN/L = 1.94 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	€.	CYN	CBL	L/0
7.320	12.075	01207	00188	.00031	1.17268
7.320	15.152	01152	00201	.00024	1.60001
7.323	18.327	00789	00136	.00028	1.74900
7.320	23,040	00308	00087	.000060	1.68984
7.320	27.086	00066	00053	.00057	1.55227
7.320	30.934	.00603	.00070	.00054	1.39797
7.320	34 .839	,00504	.00050	.00087	1.24811
7.320	39,008	.00688	.00078	.00113	1.10311
7.320	43.000	.00809	.00075	.00129	.97648
7.320	47.106	.01181	.00095	.00156	.85756
7.320	51.213	.01461	.00143	.00191	.74832
	GRADIENT	.00069	euuun.	.00004	02073

entropy of the second of the s

Segue Section

# AMESS.5-166 CA23 819 C7 E23 F5 H4 H6 R5 V7 MIDT

(88618A) ( 13 SEP 73 )

## REFERENCE DATA

# PARAMETRIC DATA

SPET	Ŧ	2000.0000 SQ.FT.	1000	3	1076.4800 IN.	BETA =	.000	ELEVON =	-40,000
LREF	=	474.8000 IN.	THEP	Ξ	.0000 IN.	AILRON =	.000	BOFLAP =	-14.250
BREF	=	936.68UD IN. '	ZHRP	E	400.0000 IN.	SPOBRK =	95.000	RUDDER =	.oc.)
SCALE	z	.0100 SCALE							

RUN NO.	<b>53/</b> 0	RN/L =	1.88 G	RADIENT INTE	RVAL = -5.	00/ 5,00
K	ACH	ALPHA	CY	CYN	CBL	L/O
5,	.260	12.357	~.01348	-,00061	.00024	1.18820
5.	.260	15.303	00951	00047	.00055	1.56456
5.	,26)	18.608	00676	~.00051	.00006	1.72742
5.	.260	23.193	00211	~.00054	61000.	1.68023
5.	,260	27.190	.00047	~,00015	~.00005	1.54255
5.	.260	30.835	.00523	.00018	00008	1.40969
5,	.260	34.876	.00367	.00035	~.00010	1.25103
5.	.260	39.036	.00492	.00038	00031	1.10672
5.	.260	43.015	.00876	.00066	00016	.98014
5.	.260	47.068	.01032	.00038	.00015	.80223
5.	,260	51 .183	.01300	.00030	.00141	.75290
	G	RADIENT	.00063	.00003	.00001	02040
AUN NC.	<b>36/</b> 0	RN/L =	2.07 G	RADIENT INTE	RVAL = -5.	00/ 5.00
w	NGH	ALPHA	G	CYN	CBL	L/O
7.	320	22.139	D1 198	00232	.00009	1.69865

HACH	ALPHA	CT	CYN	CBL	L/O
7,320	22.139	01198	00232	.00009	1.69865
7,320	25.283	00058	00163	.00025	1.61021
7.320	28.981	00664	00114	.00029	1.47765
7.320	33.202	.00391	.00005	.00020	1.31448
7.320	37,204	00164	00049	-00072	1.16567
7,320	40.999	.00261	00033	.00095	1.04901
7.320	44.987	.00541	.00017	.00094	.91933
7,320	49.133	.00804	.00048	.00104	.80498
7,320	53,184	.01009	.00048	.00124	.70232
7,320	56.103	.01238	.00055	.00145	.63238
7,320	58.301	.01348	.00076	.00157	.58100
	GRADIENT	.00070	.00007	.00004	03151

## TABULATED DATA LISTING FOR GAZS (ARC 3.5-166)

PAGE 67

AMESS.5-160 CA25 B19 CT E23 F5 H4 NB R5 Y7 MIDT

(886019) ( 13 SEP 73 )

REFERENCE DATA

PARAMETRIC DATA

\$4£7*	=	2000.0000 Se.FT.	10 COL	=	1076,4800 IN.	SETA =	.000	ELEVON =	-30.000
UCT		474.8000 IN.	THRP	=	.0000 IN.	AILRON =	.000	BOFLAP =	-14.250
BREF	=	936.6800 IM. '	ZHRP	=	400,0000 IN.	**************************************	55.000	RUDDER =	.000
SCALE	=	.0100 SCALF							

RUN NO.	37/ 0	RN/L =	1.91	GRADIENT	INTERVAL =	-5.00/	5,00

MACH	ALPHA	CY	CYN	CBL	L/O
7.320	12.055	00956	00169	.00030	1.35567
7,320	15.154	00554	00112	.00026	1,69772
7.320	18,400	00409	00107	.00026	1.81291
7.320	23.049	00212	00062	.00025	1,72065
7.320	27.022	.00251	.00012	.00023	1,57196
7.320	30.707	.00645	.00025	.00030	1.41894
7,320	34.795	.00584	.00074	.00046	1,26194
7.320	38.989	.00448	.00028	.00073	1.11265
7.320	42.928	.00980	.00096	.000189	.98629
7.320	47,024	.01206	.00152	.00109	.86707
7.320	51.099	.01213	.00137	.00148	.75865
	GRADIENT	.00054	.00008	.00003	02399

the second of th

sit in

\*

AMESS.5-168 CA23 B19 C7 E23 F5 M4 NB R5 V7 W107

(886020) ( 13 SEP 73 )

 FDE	*	n.	TA.	

## PARAMETRIC DATA

SALT		2090,0000 54.FT.		XHRP	=	1076.4800 IN.	BETA =	.000	ELEVON =	-20,000
	=	474.8000 IN.		YHRP	=	.0000 IN.	AILRON =	.000	BOFLAP =	-14.250
BREF	*	936,6800 IN.	•	2HRP	=	400,0000 IN.	9POBRK =	55.000	RUDDER =	.900
SCALE	=	.0100 SCALE								

RUN NO. 54/ (	3 RN/L =	2.01 GR	ADIENT INTE	DV4)E	00/ 5.00
NUM NO. 347 (	NOL -	2.01	MOTEST TWIE	MYAL5.	007 9.00
MACH	ALPHA	CY	CYN	CBL.	L/0
5,260	12.304	01055	00064	00005	1.49143
5,260	15.326	00731	00044	00017	1.76467
5,260	18.650	00538	00032	00038	1.85409
5,260	23.178	00047	00041	00006	1.74951
5,260	27,134	.00172	.00019	00018	1.59499
5.260	30.803	.00476	00022	00059	1.44 552
5,260	34.823	.00365	.00036	00027	1.28049
5.260	39.025	.00503	.00043	00082	1.12808
5,260	42.922	.00702	.00033	00092	1.00127
5.260	47.034	.00930	.00025	00020	.87977
5.260	51.120	.01341	.00035	.00046	.76867
	CO.0.C.IT	131313# 4	CV2V259		02631
	GRADIENT	.00054	.09903	00000	02031
	GODIEN				02031
RUN NO. 36/0			LUDUUS		
	RN/L=	1.91 GR	ADIENT INTE	RVAL = -5.	00/ 5.00
МОН	ALPHA	1.91 GR	CYN	RVAL = -5.	00/ 5.00 L/O
MACH 7.320	ALPHA 12.033	1.91 GR CY 01685	CYN -,00274	CBL .00031	00/ 5.00 L/0 1.41868
MACH 7,320 7,320	ALPHA 12.033 15.099	1.91 GR CY 01665 00803	CYN0027400169	CBL .00031 .00035	00/ 5.00 L/0 1.41868 1.74673
MACH 7.320 7.320 7.320	ALPHA 12.033 15.099 18.326	1.91 GR CY 01665 00803 20445	CYN002740016900110	CBL .00031 .00035 .00043	00/ 5.00 L/0 1.41968 1.74673 1.83356
MACH 7.320 7.320 7.320 7.320	ALPHA 12.033 15.099 18.326 23.030	1.91 GR CY 01665 00803 90445 00301	CYN00274001690011000085	CBL .00031 .00035 .00043 .00054	00/ 5,00 L/D 1,41868 1,74673 1,83356 1,73861
MACH 7.320 7.320 7.320 7.320 7.320	ALPHA 12.033 15.099 18.326 23.030 27.036	1.91 GR CY 01665 00803 90445 00301 00152	CYN0027400169001100008500020	CBL .00031 .00035 .00043 .00054 .00048	00/ 5.00 L/D 1.41868 1.74673 1.83356 1.73861 1.58558
MACH 7.320 7.320 7.320 7.320 7.320 7.320	ALPH- 12.033 15.099 18.326 23.030 27.036 30.703	1.91 GR CY 01665 00803 90445 00301 00152 .00749	CYN0027400169001000008500020	CBL .00031 .00035 .00043 .00054 .00048 .00056	00/ 5.00 L/0 1.41868 1.74673 1.83356 1.73661 1.58558 1.43470
MACH 7.320 7.320 7.320 7.320 7.320 7.320 7.320	ALPH- 12.033 15.099 18.326 23.030 27.036 30.703 34.784	1.91 GR CY 01665 00603 90445 00301 00152 .00749 .00402	CYN0027400169001000008500020 .00059 .00047	RVAL = -5.  CBL .00031 .00035 .00043 .00054 .00056 .00059	00/ 5.00 L/O 1.41868 1.74673 1.83356 1.73861 1.58558 1.43470 1.27332
MACH 7.320 7.320 7.320 7.320 7.320 7.320 7.320 7.320	ALPHA 12.033 15.099 18.326 23.030 27.036 30.703 34.784 38.997	1.91 GR CY 01665 00803 00445 00301 00152 .00749 .00402 .90572	CYN0027400169001690008500020 .00059 .00047	RVAL = -5.  CBL .00031 .00035 .00043 .00054 .00048 .00056 .00059 .00093	00/ 5.00 L/O 1.41668 1.74673 1.83356 1.73861 1.58558 1.43470 1.27332 1.12276
MACH 7.320 7.320 7.320 7.320 7.320 7.320 7.320 7.320 7.320	ALPHA 12.033 15.099 18.326 23.030 27.036 30.703 34.784 38.997 42.945	1.91 GR CY 01685 00803 90445 00301 00152 .00749 .00402 .90572 .00788	CYN0027400169001000008500020 .00059 .00047 .00054	RVAL = -5.  CBL .00031 .00035 .00043 .00054 .00048 .00056 .00059 .00093	00/ 5.00 1.41868 1.74673 1.83356 1.73861 1.58558 1.43470 1.27332 1.12276 .99503
MACH 7.320 7.320 7.320 7.320 7.320 7.320 7.320 7.320	ALPHA 12.033 15.099 18.326 23.030 27.036 30.703 34.784 38.997	1.91 GR CY 01665 00803 00445 00301 00152 .00749 .00402 .90572	CYN0027400169001690008500020 .00059 .00047	RVAL = -5.  CBL .00031 .00035 .00043 .00054 .00048 .00056 .00059 .00093	00/ 5.00 L/O 1.41668 1.74673 1.83356 1.73861 1.58558 1.43470 1.27332 1.12276

.00064

.00009

.00003

-.02507

GRADIENT



The second of th

## TABULATED DATA LISTING FOR QA23 (ARC 3.5-166)

PAGE 65

₩E\$3.5~	1 66	OA23	819	C7	E23	F5	144	746	R5	٧7	WLO7

(886021) ( 13 867 73 )

EPERENCE DATA PARAMET
-----------------------

SRET =	2690.0000 SQ.FT.	XX	*	1076.4600 IN.	BETA =	.000	ELEVON =	-10,000
UREF *	474,8000 IN.	YHRP	=	.9000 IN.	AILRON =	.000	BOFLAP =	-14.250
BREF =	936.6600 IN.	ZHRP	=	400.0000 IN.	STE9RK =	55.000	RUDDER =	.000

RUN NO. 39/0 RN/L = 1.91 GRADIENT INTERVAL =	-5.00/	3.00
--	--------	------

MACH	ALPHA	CY	CYN	CBL	L/O
7.320	12.096	00437	00107	.00000	1.50250
7.320	15.167	00388	00118	.00013	1.79576
7.320	18.375	00147	00069	.00010	1.86690
7.320	23.015	00090	-,00066	.00021	1.76564
7.320	27,028	.00076	00024	.00015	1.60368
1,320	30.739	.00431	.00034	.00022	1.44621
7.520	54,806	.00622	.00060	.00023	1.28118
7.320	39.016	.01023	.000991	.00057	1,12908
7.32	42.965	.01045	.00074	.00085	.99889
7.320	47,065	.01310	.00084	.00122	.87669
7.320	51.117	.01700	.00135	.00124	.76670
	GRADIENT	.00055	.0007	.00203	02679

AMES3.5-168 CA23 B19 C7 E23 F5 M4 NB R5 V7 WLO7

(866022) ( 13 SEP 73 )

# REPERENCE DATA PARAMETRIC DATA

SEF	3	2090,0000 SQ.FT.	XHRP	=	1076,4800 IN.	BETA =	.900	ELEVON =	.000
LREF	=	474.8000 IN.	YHRP	=	.0000 IN.	AILRON =	-10.000	BOFLAP =	-14.250
BREF	=	936.6600 IN. '	2)4RP	=	400.0000 IN.	SPOBRK =	55,000	RUDDER =	·UU
SCALE	=	.0100 SCALE							

BIAL NO	407.0	BM /1 =	1 92	GRADIENT INTERVAL	=	-5 00/	5 (2)	
KUN NU.	40/ U	MOVL =	1.92	GKADIENI INTEKAM	_	-3.UU/	2.00	

MACH	ALPHA	α	CYN	CBL	L/D
7.320	12 0/1	00734	00002	00437	1.52941
7.320	15,164	00817	00000	-,00565	1.81746
7,320	18.339	00645	.00059	00740	1.87014
7,320	23.077	00451	.00190	00941	1.74231
7.320	27.101	00194	.00302	01164	1.57794
7.320	30.713	00058	.00549	01354	1.42369
7,320	34.799	00056	.00443	01527	1.26071
7.320	38.986	.00062	.00498	01651	1.10955
7,320	42.941	00176	.00499	01754	.97943
7,320	47.029	.00130	.00529	01857	.85968
7.320	51.120	.00280	.00578	01966	.74940
	GRADIENT	.00026	.00016	00040	02777

AMESS.5-166 OA23 B19 C7 E23 F5 M4 NB R5 V7 WEG7

(886025) ( 13 SEP 73 )

# REFERENCE DATA

# PARAMETRIC DATA

UNT	=	2690,0000	99.FT.	<b>3046</b> P	=	1076.4800 I	N.	BETA	=	5,000	ELEVON =	.000
UND	*	474.8000	IN.	YHRP	=	.0000 11	N,	AILRO	N =	.000	BOFLAP =	-14.250
BREF	=	936,6800	IN,	2MRP	=	400.0000 IP	N.	SPDBR	K =	55.000	RUDDER =	.000
SCALE	2	.0100 9	SCALE									

RUN NO.	57/ 0	RN/L =	2.18 GF	LADIENT INTE	RVAL = -5.	00/ 5.00
H	AQ1	ALPHA	CT	CTN	CBL	L/O
5	.260	12.334	06161	00122	00559	1.58655
5	.260	15.373	05821	00307	00627	1.82394
5.	.260	18 664	05313	00468	00682	1.86421
5.	.260	23.245	04853	00670	00798	1,74941
5.	.260	27.180	04602	00806	00908	1,58658
5	.260	30.805	04099	00728	01112	1,43776
5.	.260	31.027	04517	00679	01070	1,42570
5.	.260	34.943	03978	00741	01178	1.27044
5.	.260	39.122	03706	00817	01276	1.11808
5.	.260	43.096	03375	-,00877	01310	.98792
5.	.260	47,200	02803	00932	01246	.86621
5.	.260	51.219	02255	01013	01042	.75687
	6	RADIENT	.00093	00019	00018	02831
RUN NO.	43/ 0	RN/L =	1.86 GR	ADIENT INTE	RVAL = -5.	00/ 5.00
M	М	ALPHA	CY	CYN	CBL	L∕o
7.	.320	12.191	05307	00479	00363	1.41333
7.	.320	15,308	~.04638	00548	00429	1.73201
7	.320	18.635	04175	00645	[0492	1.82726
7.	.320	23,236	04024	00859	00581	1.73405
7.	.320	27.216	03782	00772	00724	1.57375
7.	.320	30.888	02977	00612	00866	1.42701
7.	.320	34.904	03229	00647	~.00968	1.26562
7.	.320	39,138	02573	00644	01016	1.11459
7.	.320	43.087	02351	00726	01060	.98695
7.	.320	47.194	02216	00814	01072	.86563
7.	.320	51.336	01809	00793	01048	.75460

.00082 -.00005

GRADIENT

-.00020 -.02513



The way have been the common the common the common the common to the common t

## TABULATED DATA LISTING FOR CA25 (ARC 3.5-166)

PAGE 71

AMES3.5-168 CA23 819 CT E23 F5 M4 N6 R5 V7 W107

(886026) ( 13 SEP 73 )

## REFERENCE DATA

# PARAMETRIC DATA

SHET	=	2000,0000 SQ.FT.	XHRP	I	1076,4800 IN.	BETA =	.000	ELEVON =	.000
LREF	*	474.8000 IN.	YMRP	Ξ	.0000 IN.	AILRON =	.000	BOFLAP =	-14.250
DREF		936.6600 IN. '	ZMRP	2	409,0000 IN.	SPOBRK =	55,000	RUDDER =	-10.000
SCALE		.0100 SCALE							

RUN NO. 44/ 0 RM/L = 2.08 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CY	CYN	CBL	L/O
7.320	2.448	02297	.00191	00175	57275
7.320	5.515	02124	.00115	00174	.03761
7.320	9.291	01439	.00082	00134	.92897
7.320	13,460	00731	00036	00075	1.61764
7.320	17.401	00540	00087	00064	1.83754
7.320	21.137	00107	00064	00057	1.81080
7.320	25,205	00074	00050	00041	1.66327
7.320	29,416	.00298	.00042	00052	1.48401
7,320	33,275	.00519	.00062	00040	1.32901
7.320	37.439	.00699	.00082	00933	1,17159
7.320	41.531	.01063	.00054	.00004	1.03095
	GRADIENT	.00000	.00000	.00000	.00000

APES3.5-168 QA23 B19 C7 E23 F5 M4 NB R5 V7 W107

(BB6027) ( 13 SEP 73 )

#### · REFERENCE DATA

#### PARAMETRIC DATA

STET	=	2090,0000 89.FT.	<b>30478</b> P	=	1076.4800 IN.	BETA =	.000	ELEVON =	.000
UREF	*	474.8000 IN.	YHRP	=	.0000 IN.	AILRON =	.000	BOFLAP =	-14.250
<b>BREP</b>	x	936,6800 IN. '	ZHRP	=	400,0000 IN.	SPOBRK =	85.000	RUDDER =	.600

SCALE = .0100 SCALE

RUN NO. 45/0 RN/L = 2.04 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CY	CYN	CBL	ᅜ
7.320	2.362	01684	00031	00054	57604
7.320	5.443	01716	00076	-,00052	.00975
7.320	9.105	01078	00160	00039	.87413
7.320	13.290	00391	00159	00015	1,57252
7.320	17.316	~.00372	00180	00023	1.82623
7,320	20.983	.00253	00078	-,00017	1.81155
7,320	25,085	.00388	00035	00024	1.67040
7.320	29.271	.00476	.00025	-,00036	1.49267
7.320	33.242	.00457	.00025	00039	1.32971
7.320	37.431	.00794	.00079	00022	1.17241
7.320	41.374	.01198	.00095	.00007	1.03667
	GRADIENT	.00000	.00000	.00000	.00000

المنافع والمنافع والم

"大学是是一个"

#### TABLEATED DATA LISTING FOR GAZ3 (ARC 3.5-166)

PAGE 72

The second second second

سنوح فيديونها والمراجعين

AMESS.5-166 CA23 B19 CT E23 F5 H4 NB R5 V7 W107

(888028) ( 13 SEP 73 )

REFERENCE DATA

PARAMETRIC DATA

SMEF = 2690,0000 SQ.FT. XHRP = 1076,4800 IN. ELEVON = BETA = .000 .000 BOFLAP = -14,250 LREF = 474,8000 IN. YHRP = .000G IN. AILRON = .000 BREF = 936.6800 IN. ' 2MRP = 400.0000 IN. SPOBRK = RUDDER = -10.000 85,000 SCALE = .0100 SCALE

RUN NO. 49/0 RN/L = 1.93 GRADIENT INTERVAL = -5.00/ 5.00

MACH ALPHA CY CYN L/D CEL. 7.320 1.998 -.02484 .00532 -.00283 -.60134 7.320 5.065 ~ .02053 .00484 -.00280 -.09346 7.320 -.01644 .00293 -.00216 .80381 8.851 7.320 -.00616 .00119 -.00117 1.56996 13.010 7.320 -.00044 1.86572 16.934 -.00137 .00056 7.320 20,646 .00228 .00030 -.00036 1.84977 7,320 24.757 .00232 .00091 -.00020 1.69319 7.320 28.964 .00565 .00131 -.00022 1.51277 7.320 32.878 .00497 .00065 -.00000 1.34891 7.320 36,989 .01006 .00140 .00017 1.19106 7.320 41 .061 .00811 .000070 .00352 1.04785 GRADIENT .00000 .00000 .00000 .00000

AFES3.5-168 QA23 B19 C7 F5 V7 R5 M4

(996029) (13 SEP 73 )

· REFERENCE DATA

PARAMETRIC DATA

### 2000,0000 Se.FT. > 34RP = 1076.4800 IN. BETA = .000 BDFLAP = -14.290 URZF = 474.8000 IN. YMRP = .0000 IN. SFOBRK = 55,000 RUDGER = .000 BREF = 936.6800 IN. ' ZMRP = 400.0000 IN.

SCALE = .0100 SCALE

RUN NO. 46/0 RN/L = 2.05 GRADIENT INTERVAL = -5.00/ 5.00

MACH ALPHA CY CYN CBL L/D -.01134 .00009 7.320 11.999 -.00136 .88012 7,320 15.099 -.00927 -.00088 .00007 1.35921 7.320 18.313 -.00711 -.90102 .00010 1.61105 7.320 23,006 -.00613 -.00084 .00003 1.62535 7.320 27.034 -.00490 -.00035 .00003 1.50182 7.320 30.723 .00616 .00006 .00036 1.37535 7.320 34.814 .00194 .00046 .00035 1.21956 7.320 36.975 .00365 .00017 .00041 1.08119 42.950 ,00039 7.320 .00454 .00052 .95763 7,320 47.039 .00051 .00070 .84205 .00666 7.320 51.073 .00776 ,00073 .000080 ,73895 GRADIENT .00050 .00002 .00005 -.01445



the second of the second

# TABULATED DATA LISTING FOR CA23 (ARC 3.5-168)

PAGE 73

#### APESS.5-164 CA23 BIG C7 F5

(886030) ( 15 SEP 73 )

#### REFERENCE DATA

PARAMETRIC DATA

SPET		2090,0000 30.FT.	HIRP	=	1076.48CD IN.	BETA	=	.900	BOFLAP =	-14.250	
LREY	=	474.8600 IN.	THRP	Ξ	.0000 IN.						

BREF = 936.6800 IN. ' 2MRP \* 400,0000 IN.

SCALE = .0190 SCALE

## RUN NO. 47/ 0 RN/L = 2.05 GRADIENT INTERVAL = -5.00/ 5.00

HACH	ALPHA	CY	CYN	CBL	L/0
7.320	12.008	01376	00186	.00032	1.08907
7,320	15.055	00934	00144	.00032	1.51240
7.320	16.350	00946	00109	.00032	1.69824
7.320	23.026	00318	00033	.00031	1.65731
7.320	27.020	00460	00029	.00031	1.54036
7.320	30.676	.00046	00040	.00047	1.38059
7,320	34.784	00160	00016	.90064	1.23510
7,320	38.981	.00248	.00034	.00068	1.08996
7.320	42.908	.00357	.00031	.00672	.96621
7.320	47,000	.00630	.00082	.00079	.84996
7.320	51.109	.01028	.00152	.00093	.74195
	GRADIENT	.00055	.00007	.00002	01678

#### AMES3.5-168 QA25 B19 C7

(896031) ( 13 SEP 73 )

# REFERENCE DATA

PARAMETRIC DATA

-307	# 2600.0000 \$9.FT.	XMRP = 1076,4800 IN.	BETA =	.000

.0000 IN. # 474,6000 IN. YMRP = 936,6800 IN. ' 2MRP = 400,0000 IN.

.0100 SCALE

#### RUN NO. 48/0 RN/L = 2.07 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	α	CtN	CBL	L/0
7.320	11.965	00566	00092	.00005	1.09872
7.320	15.092	00358	00064	,00008	1.50773
7.320	18.321	00240	00028	.00006	1.68340
7.320	23.051	00088	.00001	.00005	1.64323
7.320	27.030	00181	.00023	.00001	1.52182
7.320	30.719	.00326	.00037	.00002	1.37031
7,320	34.782	.00323	.00064	.DOD39.	1.22457
7.320	39.004	.00246	.00012	.00035	1.07619
7,320	42.956	.00507	. : '53	.00046	.95303
7.320	47.029	.00429	.Du/345	.00061	.83601
7,320	51.005	.00647	.00079	.00067	.73201
	CRADIENT	nonze	.00004	.00002	01904

التهام المناز المناز المناز المن المنظم المنازي المنظم المنازي المنظم المنازي المنظم المنازع ا

The second second

AMESS.5-166 CA23 B19 C7 E23 F5 M4 NB R5 V7 W107

(886G32) ( 13 SEP 73 )

#### REFERENCE DATA

# PARAMETRIC DATA

SHET	=	8394 ,0000 SQ.FT.	:1437		1976.4800 IN	BETA =	5.0	00 ELEVON	2 .000
LINE	=	474.8000 IN.	THRP	=	.0000 IN	AILRON =	.00	DO BOFLAP	= -14.250
BREF	*	936,6800 IN. '	ZHRP	=	400.0000 IN	SPOBRK =	55.0	DU RUDDER	.000

SCALE = .0100 SCALE

# RUN NO. 58/ 0 RN/L = 2.15 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CΥ	CYN	CBL	L/D
10.290	12.331	05175	00634	00326	1.35494
10.290	15.416	-,04526	00682	00387	1,68679
10.290	18.705	04204	00734	00477	1.79947
10.290	23.255	~.03978	00830	00625	1.71965
10.290	27.286	03847	00750	00719	1.56794
10.290	30.895	03369	00733	00944	1.41380
10.290	34.974	03819	00764	<b>60990</b>	1.25919
10.290	39,163	03574	-,00804	01118	1.10761
10.290	43,130	03225	00880	01127	.97873
10.290	47.231	02640	00923	01212	.85871
10,290	51.289	02383	~.00938	01253	.75063
	GRADIENT	.00056	00007	00026	~.02409

AMESS.5-168 CA25 B19 C7 E23 F5 M4 NB R5 V7 WLU7

(886033) ( 13 SEP 73 )

#### REFERENCE DATA

#### PARAMETRIC DATA

<b>STET</b> 2	2000.0000 SQ.FT.	<b>XMP</b>	=	1076.4800 IN.	BETA =	.000	ELEVON =	.000
UREF *	474,8000 IN.	YMRP	*	:0000 IN.	AILRON =	.000	BOFLAP =	-14.250
8007 ×	936,6800 IN.	21475	=	400.0000 IN.	SPDBRK =	55,000	RUDDER =	.000

RUN NO. 59/ 0 RN/L = 2.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	a	CYN	CBL	LO
10.290	12.239	D1465	00132	00004	1.45528
10.290	15.326	00607	00061	00004	1.75862
10.290	18.579	00694	00074	00005	1.85735
10.290	23,086	00447	00032	000009	1,74973
10,290	27.176	00172	.00022	00046	1.58775
10.290	30.827	.00500	.00031	.00063	1.43448
10.290	34.849	.00069	.00022	00065	1.27157
10.290	<del>39</del> .029	.M313	.00034	00022	1.11793
10.290	42.976	.00000	-00070	00016	.98800
10.290	47,091	.01093	.00042	.00038	.86705
10.290	51.183	.01486	.00039	.00081	.75569
	GRADIENT	.00066	.00004	.00001	-,02621



## TABULATED DATA LISTING FOR CA23 (ARC 3.5-166)

NESS.5-166 CA23 BIS CT E25 F5 M4 M6 R5 V7 MIDT

(886034) ( 13 SEP 73 )

#### REFERENCE DATA

# PARAMETRIC DATA

and the second of the second o

9407	*	2000,0000 Se.FT.	MRP	=	1076.4806 IN.	BETA =	.000	ELEVON #	.000
UNET		474.8000 IN,	THRP	=	.0000 IN.	AILRON =	.000	BOFLAP =	.000
BRET	=	936,6800 IN. '	ZHRP	=	400.0000 IN.	SPOBRK =	55,000	RUDDER =	.OUU

SCALE = .0100 SCALE

## RUN NO. 60/ 0 RM/L = 1.87 GRADIENT INTERVAL = -5.00/ 5.00

HACH	ALPHA	CT	CYN	CBL	L/0
10.290	12.291	00602	.00113	00063	3.49845
10.290	15,344	.00042	,00057	00021	1.89037
10,290	18.591	.00016	.00053	00070	1.83641
10.290	23.183	.00257	.00060	00072	1.74544
10,290	27,125	.00696	.00117	00072	1.59010
10,290	30.833	.00914	.00112	00006	1.43833
10,290	34.836	.010 6	.00137	00074	1.27199
10.290	39.064	.00950	.00097	00018	1,11733
10.290	42.955	.01359	.00113	.00022	.98854
10,290	47,075	.01261	.00069	00169	.86558
10.290	51.147	.01606	.00025	.00152	.75533
	GRADIENT	.00052	00000	.000002	nagas

AMESS.5-168 CA23 B19 C7 E23 F5 M4 NB FL V7 W107

(896035) ( 13 SEP 75 )

#### REFERENCE DATA

#### PARAMETRIC DATA

STEF	=	2090,0000 50.FT.	104RP	=	1076,4800 I	N,	BETA	=	.000	ELFVON =	,000
UNEF		474.8000 IN.	YMRP	Ξ	1 0000.	N.	AILRON	=	.000	BOFLAP =	13.750
SPET	*	936,6000 IN. '	2HRP	=	400,0000 I	N,	SPDBRK	=	55,000	RUDDER =	.000

SCALE = .0100 SCALE

# RUN NO. 61/0 RN/L = 1.83 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	Ct	CYN	CBL	L/D
10,290	12.281	01611	.00101	00078	11.49910
10,290	15.323	00972	-,00055	00042	2.73505
10.290	19,604	06789	00043	00039	2.00869
10,290	23,190	00593	-,00066	-,00061	1.73014
10,290	27.158	00275	00047	00026	1.56895
10,290	30.858	.00546	-,00011	00008	1,41010
10.290	34.089	.00095	00040	00016	1.24755
10.290	39.043	.00492	,00001	.00052	1.09708
10,290	42.981	.01664	.00029	.09145	.96966
10.290	47,096	.01144	00016	.00956	.84866
10.290	51.174	.01550	00008	.00111	.73986
	GRADIENT	.00077	.00000	.00005	14734

7 mm

#### TABULATED DATH LISTING FOR GA23 (ARC 3.5-168)

PAGE 76

AFESS.5-160 CA23 B19 C7 E23 F5 H4 N8 R5 V7 W107 (886036) ( 13 SEP 73 )

REFERENCE DATA

PARAMETRIC DATA

المقاصي الرابات فافتحامه الوازيان وفياوي وجاراك فوالنفيج النفالها المستم الميالا والمحارفة الوازات

BETA = .000 ELEVON = 10.000 SMEP = 2000.0000 50.FT. MORP = 1076,4600 IN. AILRON = .000 JOFLAP = 13.750 YMRP = .0000 IN. BREF = 936,6600 IN, ' 2HRP = 400,0000 IN. SFOBRK = 55,000 RUDDER = .000

SCALE = .0100 SCALE

RUN NO. 62/ 0 RN/L = 1.86 GRADIENT INTERVAL = -5.00/ 5 09

HACH	ALPHA	SY.	CYN	CBL.	L/h
10.290	12.274	00965	000000	00003	1.55437
10.290	15.329	-,00856	- 00104	00006	1.826.1
10.290	18,609	00603	00083	.00018	1.84704
10.290	23.171	00377	00040	.00003	1.71310
10.290	27,188	~,00164	00052	00021	1.53884
10,290	30.881	.00481	00032	.00036	1.37399
10.290	34,863	.00368	.00031	00018	1.21635
10.290	39.073	.00617	.00038	.00040	1.06608
10.290	43.017	.00958	.00047	.00059	.94007
10.290	47,086	.01255	.00047	.00047	.82287
10.290	51.152	.01507	.00023	.00134	.71696
	GRADIENT	.00065	.00004	.00003	02915

AMESS.5-168 CA23 B19 C7 E23 F5 M4 NB R3 V7 WLO7

(886537) ( 13 SEP 73 )

REPERENCE DATA

PARAMETRIC DATA

SMEF # 3000,0000 50.FT. 1000 = 1076.4800 IN. BETA = .000 ELEVON = -40.000 AILRON = LREF & 474.6000 IN. YMRP = .0000 IN. .000 BDFLAF = -14.250 BRET # 936.0000 IN. ' 248P = 400.0000 IN. SPDBRK = 55.000 - RUDDER = .000 SCALE = .0100 SCALE

RUN NO. 63/0 RN/L = 1.86 GRADIENT INTERVAL = -5.00/ 5.00

MAQ"	ALPHA	a	CYN	CBL	L/D
10.290	12.246	01392	~.00162	.00018	164D5
10.290	15.348	00782	00067	.00004	1.5)734
10.290	18.582	00678	00065	.00619	1.73143
10.290	23,213	-,90223	00006	00011	1.67717
10.290	27.099	.00067	.00026	00016	1.54224
10.290	30,785	,00491	.00005	.0.2011	1.40264
10.290	34,836	.00348	.00035	.00039	1.24387
10.290	39.032	.00491	.00038	.000	1-09781
10.290	42.986	.00761	.00022	.00142	.97202
10.290	47,129	.00682	.00033	.00042	.85260
10.290	51.183	.01128	.00037	.00098	.74769
	GRADIENT	.00056	.00004	.00002	02065



والمنافي والم

DATE IL SEP 74

#### TARULATED DATA LIBYING FOR MAZE (AGC 3.5-166)

PAGE 77

# ₩ES3.5-166 OA23 B19 C7 E23 F5 N4 N6 R5 V7 W107

(88403e) ( 13 SEP 73 )

		REPE	RENCE DA	TA .								PARAMETRI	C DATA	
SC7 :	=	2900 .OF 00	59.FT.	MRP	7	1076.	4800 IN.				BETA =	יטו.	ELEVON :	-40.000
(大学)	=	474.8000	IN.	THRP	2	.(	0096 IN.				AILRON =	.500	STLAP =	-14.250
DRET"	=	936,6603	IH. '	2MRP	*	400.0	0000 IN.				SPOBRK =	55,000	RUDDER =	.000
SCALE :	2	.0100	SCALE											
				RUN N	ю.	947	D R∱:/L =	1.07 G	RADIENT INTE	RVAL = -5.	.00/ 5.00			
					H	KC4	ALPHA	a	CTH	CBL	LC			
					10	·290	12 158	01337	00126	.00014	1.05667			
					10	.290	15,276	00869	00083	.00010	1.49365			
					10	.290	18,507	-,00460	00074	.00002	1,65443			
					10	.290	23.170	00263	00024	.00006	1,63601			
					10	.290	27.119	ינה <b>ס</b> טם.	.00124	00002	1.51396			
						290	30.816	.00579	.00051	.00025	1.39083			
					10	290	34.946	,33726	.00134	00007	1,22688			
					10	.290	39.113	.91066	.00199	00030	1.08813			
					10	.290	42.995	.01251	.00161	.00021	,96806			
						290	47.105	.01013	.00208		.85174			
						.290	51.190	.01242	.00161	.00038	.74568			
							GR DIENT	.30065	.00009	.00001	01779			

# AMES3.5-168 CA23 B19 C7 E23 F5 M4 NB R5 V7 WLO7

(E96023) ( 17 MEP 73 )

## REFERENCE DATA

## PARAMETRIC DATA

<b>SPET</b> :	2600,0000 59.FT.	XHEP	=	1076.4800 IN.	BETA =	,000	ELEVON =	-10,000
LREF =	474.8000 14.	YMRP	=	.0000 IN.	AILRON =	-10.000	80FL.P =	-14.250
BREF =	936,6600 IN. '	ZHRP	z	400.0000 IN,	SHOBRK =	55,000	RUDDER =	.000
SCALE =	.0100 SCALE							

# RUH NO. 41/ 0 RN/L = 1.71 GRADIENT INTERVAL = -5.00/ 5.00

MOH	ALPHA	C/	CYN	CBL.	L/0
7,320	12.154	01015	00234	00211	1.42417
7,320	15.308	00716	00154	00262	1,74291
7.320	18.550	00706	00114	00339	1.83537
7.320	23.170	00700	00104	-,03481	1.73850
7.320	27.160	00464	00022	00616	1.57728
7,320	30.856	.00390	.00112	00762	1,43039
Y,320	34.955	.00008	.00163	00933	1.26582
7.320	39.067	.00017	.00171	01 -4	1,11752
7,320	43.007	,00036	.00231	01163	.99089
7.320	47.136	.00333	.00268	011 74	.66912
7.320	51.256	.00555	.00333	01373	.75895
	GRADIENT	.00037	.00014	00032	02533

## TABULATED DATA LISTING FOR CA23 (ARC 3,5-166)

PAGE 78

AMESS,5-168 CA2S 810 C7 E23 F5 M4 NB R5 V7 W107

(886024) ( 17 SEP 73 )

## REFERENCE DATA

CARAMETRIC DATA

SACT		2090.0000 SQ.FT.		MRP	=	1076,4800 IN.	BETA =	.000	ELEVON =	-20,000
LACT	*	474.8000 IN.		YMRP	×	.000G IN.	AILRON =	-10.000	BOFLAP =	-14.250
BRET	3	936.6800 IN.	•	ZMRP	=	400.0000 IN.	\$POBRK =	55.700	KUDDEK =	.000
SCALE	=	.0100 SCALE								

RUN NO. 42/ 0 RN/L = 2.15 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	ଫ	CTN	CBL	L/O
7.320	12.054	01011	00214	00175	1,40977
7,320	15,149	00834	~.00198	00160	1.72992
7,320	18.352	00331	00102	00178	1.82630
7.320	23,060	00030	00055	00221	1.73891
7.320	27.093	נידטטט	00012	0,313	1.50302
7.320	30.705	.00181	~.00036	00363	1.43410
7.320	34.799	.00290	.00048	-,00465	1.27171
7,320	38.982	.00291	.90016	~.00564	1,12220
7.320	42.934	.00304	.00056	00658	.99297
7.320	47.034	.(XH92	.00084	-,00757	.87279
7.320	51.161	.00492	.00088	00844	.76180
	GRADIENT	.00035	ecoco.	0001a	02487

